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VOL. XX MARCH, 1922 No. 3

ORIGINAL ARTICLES

TREATMENT OF THE LACERATED AND INFECTED CERVIX UTERI.*

By ALBERT V. PETTIT, M. D., San Francisco, Cal.
From the Division of Obstetrics and Gynecology, Stanford University School of Medicine, San Francisco, California.

Interest in the results following the various methods of treating infected and lacerated cervices has been stimulated largely by the work of Leonard in 1914, in his comparison of the end results in amputation and trachelorrhaphy; and further by the article of Sturmdorff in 1916, on "Tracheloplastic Methods and Results."

This report is undertaken with the idea of estimating the relative value in the treatment of infections and lacerations of the cervix in three types of operations, namely:

Actual cauterization.
Trachelorrhaphy.
Amputation.

The investigation has covered 373 cases operated upon at the Women's Clinic of the Stanford University Medical School during the past eight years. Special attention has been paid to the relief of leucorrhoea, pelvic pain, objective cure of cervical pathology and the relationship to future pregnancies.

Infection of the lower genital tract in women is limited almost entirely to the glandular structures; vulvo-vaginal, urethral and cervical. These structures when intact are immune to practically all organisms except that of gonorrhoea. Infections of the undamaged cervix is practically always gonorrhoeal at its inception. The gonococci are replaced after variable lengths of time by other organisms, the gonococci seeming to serve largely to prepare the field for other types of infection. Curtis, in 1914, showed that these secondarily infecting organisms were various strains of bacilli, diplococci and streptococci, mostly anaerobic. In the damaged cervix the soil is prepared for infection by the opening up and traumatizing of the tissues. The importance of laceration of the cervix in the incidence of its infection is indicated by the fact that in 111 cases of laceration in this series, in which a microscopical section of the cervix was examined, 66 cases or 59½ per cent, were infected.

Infection of the cervix uteri concerns the racemose glands lining the cervical canal from the external to the internal os. Microscopical examination of sections through an infected cervix shows hyperplasia in the interstitial tissue about the glands, round cell infiltration, with occasional collections resembling actual abscess formation. If the cervicitis is at all chronic there are many cysts of the glands filled with mucoid material caused by the occlusion of the gland ducts. The so-called erosions are often present, in which the columnar epithelium of the canal has replaced varying amounts of the stratified squamous epithelium of the vaginal portion of the cervix. Infection of the cervical tissues diminishes in intensity as the internal os is approached and only rarely passes this barrier, to invade the endometrium. The immunity of the endometrium is well shown in 86 cases in this series which showed microscopical evidence of cervicitis, and in which specimens of endometrium were obtained at the time of operation. Of these cases, only 12, that is 14 per cent, shows any infection of the endometrium. It is also interesting to note that of these 86 cases, 37 per cent had palpable evidence of marked pelvic inflammatory disease, showing that the usual route of infection of the internal pelvic organs is not the uterine cavity.

Lymphatic drainage from the entire mucous surface of the cervix and uterus is upward and outward throughout the musculature of the entire organ towards the serous coat. Vessels leave the uterus by way of the sacrouterine, cardinal and broad ligaments. Many fine lymph vessels traverse these structures to empty into the sacral, hypogastric and lumbar nodes. By this path, infection of the glandular elements of the cervix spreads upward and thus may involve any or all of the internal pelvic organs. This is the usual route of infection in the production of the so-called pelvic inflammatory disease.

Symptoms of laceration and infection of the cervix as generally given are numerous and varied, but aside from the objective signs of discharge and the local irritation therefrom, practically all the complaints are due to the involvement of the pelvic organs by the upward extension of infection.

There is no treatment indicated for any healed laceration of the cervix in the absence of infection. However, from the known high incidence of infection of lacerations (59½ per cent), considerable can be done in the way of prophylaxis, that is, repair of the laceration at or near the time of its inception, before infection has taken place. There has been considerable discussion as to the correct time in which to repair lacerations of

*Read before the Fiftieth Annual Meeting of the Medical Society of the State of California, Coronado, May, 1921.

the cervix; whether it should be done immediately following delivery or at some time during the first six weeks post-partum. Certainly the longer the interval between occurrence and repair of the laceration, the greater the possibility of infection. It has been urged that the benefits of immediate trachelorrhaphy are outweighed by the following disadvantages:

1. Added danger of the puerperal sepsis.
2. Odema of the tissues preventing proper coaptation of parts.
3. Free drainage of lochia prevented.
4. That the technique is difficult.

In our experience we have found none of these objections valid. In the routine exposure of the cervix after expression of the placenta in 700 consecutive cases in the Maternity Ward of the Stanford University Medical School it was found necessary to suture the cervix in 73 cases, roughly 10 per cent.

The maternal morbidity has not increased as a result of this procedure. Odema of the tissues of the cervix certainly obscures the anatomy somewhat, but the difficulty of getting proper coaptation of the lacerated edges is by no means insurmountable. After proper approximation of lacerated edges there should be no more obstruction to the drainage of lochia than in the unlacerated cases.

The technique is quite simple: Immediately after the expression of the placenta, the patient is put in lithotomy position. The cervix is exposed by making pressure over the fundus, and an assistant retracts the vulvar orifice, the edges of the cervix are grasped with ring forceps and the edge followed around, using three pairs of forceps. The lacerated edges are brought into vivid relief by the use of ether sponges. Lacerated edges are approximated with interrupted or continuous mattress chromic sutures. With obstetrical operations considered as major surgery, as they should be, the cervical manipulation in an immediate repair should not increase the liability to puerperal sepsis in any greater degree than the application of blades in a low forceps maneuver or the introduction of a vaginal pack.

Our results have borne out this statement, and it is seen that the 7 per cent morbidity is easily within the usual fever limits. The healing was more satisfactory in primipara than in multipara. Scar tissue from the secondary healing of old lacerations and the consequent higher percentage of cervical infection in multipara is the apparent explanation. The number of days required in the hospital was not increased, as it is our custom to keep patients in the hospital from 11 to 14 days post-partum. The factors in the production of lacerations will not be discussed, but it is important to note that lacerations occur in many spontaneous deliveries.

Immediate repair of laceration of the cervix following childbirth can only be done in a hospital and with an assistant, but the advantage to the patient's future welfare are easily worth the trouble when from 70 to 90 per cent of patients are saved the liability to infection of the cervix with its not infrequent sequelae.

End Results in Cauterization, Trachelorrhaphy, Amputation.

In the comparison of the end results in these types of cervical operation for the cure of cervicitis, with or without laceration, the records are compiled from 300 post-operative histories. The patients were all operated upon in the Women's Clinic and Gynecological Division of the Stanford University Medical School during the past eight years. The three series of 100 each were taken consecutively. Data concerning relief of cervical discharge, pelvic pain and subsequent pregnancies was obtained from the post-operative histories. The reports on postoperative cervical discharge are based on actual observations taken in the Women's Clinic. The general scheme for the investigation is that used by Leonard in 1914.

In the 100 cases of cauterization, 86 were cauterized radially, with the Paquelin cautery, under general anaesthesia; at each stroke of the cautery the point being buried in the cervical glandular tissue. Fourteen cases were done with the electric cautery without anaesthesia and were consequently more superficial. It is our custom to have the patient take a hot douche every day for a period of about two weeks following cautery, less frequently after that until at the end of about six weeks the cervix should be healed and clean. In the 100 cases of cauterization reported, an abnormal cervical discharge was present in 100 per cent. Gonorrhoea was suggestive in 18 per cent and positive in 7 per cent of cases. Pelvic inflammatory disease of the adnexa was present in 37 per cent of cases.

In the 200 cases of trachelorrhaphy and amputation, 125 complained of leucorrhoea and there was microscopical evidence of cervical infection in 132 cases. Erosions were present in 120 and lacerations in 162 cases. In general, trachelorrhaphies were done on those with a relatively mild cervicitis, while those of more extensive infection of laceration were amputated. Two types of trachelorrhaphy were done, 87 Emmett type and 13 Sturmdorff. In the amputations, 51 were of the circular type and 49 the Shroder operation.

The effects of cauterization, trachelorrhapy and amputation were contrasted in the relief of leucorrhoea in 225 cases. The cure of the discharge by amputation in 82 per cent is in marked contrast to the 62 per cent cure in cauterization and the 40 per cent cure in trachelorrhapy. Cauterization shows a high percentage of cases merely improved; this is probably because of an insufficient cauterization. In the cured or improved totals, cauterization leads, with trachelorrhapy only 59 per cent.

A comparison of the two types of trachelorrhapy shows the Sturmdorff operation leading the Emmett operation in the cure or improvement of leucorrhoea, 87 per cent to 57 per cent. The inference is plain; cure of cervical discharge lies in the removal of the infected glandular tissue to the cervix. The results of the Sturmdorff

enucleation compare favorably with those of amputation.

The relationship of pelvic pain and dysmenorrhoea to cervical disease is not always clear, on account of the not infrequent association of inflammatory and postural pelvic pathology. Of 89 patients complaining of pelvic pain or dysmenorrhoea, 43 were cauterized, 28 had trachelorraphy and 18 had amputation performed.

The cases have been divided into two groups, those having only cervical and possibly perineal work, and those having a laparotomy in addition to the cervical operation. Although the number of cases is small, the percentage is still against trachelorraphy, with cauterization showing 86 per cent cured or improved, amputation 80 per cent and trachelorrhaphy 60 per cent. The explanation is not far to seek: trachelorrhaphy fails to remove the infected tissue and symptoms from cervical lesions lie mainly in the infection present.

A series containing 199 cases was compiled which represents those of the original 300 who were below the age of 40 at the time of their operation and who were not surgically sterilized at that time. The incidence of pregnancy following trachelorrhaphy and amputation is practically the same, 22 per cent and 21.5 per cent, respectively. This is rather interesting in the light of Leonard's conclusions, that pregnancies were about twice as frequent after trachelorrhaphy. It must be remembered that amputations are performed at various heights, and that the functions of the uterus as regards pregnancy is disturbed in proportion to the amount of muscular tissue removed. In this clinic we have always removed as little tissue at operation as was compatible with removal of the infection. The cauterizations show a remarkably low percentage post-operative pregnancies, 9 per cent. Part of the explanation probably concerns the fact that the incidence of pelvic inflammatory disease was about twice that of the other two series. There were no cases of post-operative stenosis as indicated by the development of dysmenorrhoea to explain the sterility. It is seen that the number of cases which showed merely a diminution in the amount of discharge was very high, 34 per cent. After cautery we know that the cervical canal is diminished in caliber so that if the cervical discharge is not cured, it may still be sufficient to plug the os. It is known that stenosis is not a frequent cause of sterility but that the presence of a mucous plug in the canal is an efficient barrier to the ingress of spermatozoa. From this consideration we can say that pregnancy following cauterization of the cervix is infrequent and that the incident following trachelorrhapy and amputation is about equal.

The course of the pregnancies are considered after cervical operations. The question of the spontaneous interruptions in pregnancies and the character of labor in those progressing to term is of considerable importance in determining the value of cervical operations for women in the childbearing period. The average age in these cases was 29½, the average age in the three types of cases are close enough to eliminate that as a factor in the comparison. In this chart the number and character of pregnancies before and after operation are contrasted. It is seen that after cauterization, the number of pregnancies going to term is larger than before operation, with a consequent decrease in the number of abortions. In the cases of trachelorrhaphy and amputation, there was a very slight increase in the tendency to abortion, the increase being about equal in the two types of operation. Labor following these operations shows no marked departure from the normal. After cautery all the cases that went to term had apparently normal, spontaneous labors. Of the twelve cases of trachelorrhaphy who went to term, nine had easy, spontaneous labors, one was delivered by abdominal section on account of a previous repair for complete perineal laceration and two had labor induced with Vorhees' bags, because of failure to go into labor due to rigidity of the cervix. In the cases of amputation, eight became pregnant, of which two aborted in the second month, one had premature rupture of the membranes with prolapse of the cord in the fourth month, this being a case in which a high amputation had been done. Of the five cases progressing to term, four had easy, spontaneous labors, while the fifth went into labor a month past term, had a moderately long labor and received a laceration of the cervix.

In every case of Emmett trachelorrhaphy the cervix was re-lacerated at delivery.

In a consideration of the results following operations on the cervix it becomes evident that the pathology and symptomatology depend upon the infection in the cervical glands. The relief of symptoms is most marked in those procedures which destroy or remove the infected tissue. Excision of the infected area, as in amputation, has given the best result in the cure of symptoms and has had practically no more deleterous effect upon pregnancy than other operations. Cauterization has given a high percentage in the cure of symptoms, but the incidence of pregnancy after it is very low.

The operation which combines the virtues of amputation with the least apparent disturbance of the function of pregnancy is that described by Sturmdorff. We perform the operation essentially as described by him, with the exception of a few minor details, such as the use of chromic catgut suture material in place of the silkworm gut advocated by Sturmdorff, and the use of a buried suture on either side of the amputated cervix to control hemorrhage. The operation as performed in this clinic is as follows:

Slight preliminary dilatation of the cervix with bougie dilators. This need cause no damage if done carefully and facilitates exact dissection of the glandular tissue to the internal os and permits good approximation of the inverted vaginal flap to the endometrial margin. With the anterior and posterior cervical lips in the grasp of tenacula, a circular incision is made around the cervix at

the juncture of the infected cervical and healthy vaginal mucosa. The vaginal cuff is then well loosened with dissecting scissors all the way around the cervix in order to give good mucosal flaps for inverting. If there is marked cystocele, care must be taken to separate and push up the lower bladder margin. With tension on the cervical lips, the gland-bearing area is dissected out with a sharp knife, to the level of the internal os. When about half this cone is enucleated, retraction is made laterally on the vaginal flaps and a buried suture is laid on each side in the muscular tissue of the cervix at right angles to the long axis of the organ. The operation is practically bloodless from this time on and we believe the tendency to post-operative hemorrhage is diminished. After the cone of glandular tissue has been amputatd at the height of the internal os, the anterior and posterior vaginal flaps are inverted into the hollowed out cervix by the double inverting stitch of Sturmdorff. Thus, healthy vaginal mucosa is substituted for infected cervical mucosa and the musculature and the nerve supply of the uterus are undamaged by the operation. If necessary, a figure-of-eight approximating suture may be used in the mucosa on either side of the new external os. Thus six sutures are used in all. The technique is simple, and the operation can be performed in the majority of cases in 10 to 15 minutes, with no special instruments.

CONCLUSIONS.

In hospital obstetrical practice, in trained hands, the best prophylactic procedure against the development of infection of the cervix is the routine exposure of the cervix in primipara, after delivery, and suture of the lacerations.

For the cure of infection and laceration of the cervix, with the accompanying symptoms, certain types of amputation are the operations of choice.

Trachelorrhaphy is preferable to cauterization if future pregnancy is a consideration.

Cauterization, for the treatment of infection of the cervix, should only be undertaken if future pregnancy is no longer a consideration.

The Sturmdorff conical enucleation of the glandular elements of the cervix possesses the virtue of high amputation, and should give the least possible interference with future pregnancies.

BIBLIOGRAPHY.

A. H. Curtis—The Etiology and Bacteriology of Leucorrhoea.
D. G. Davy—Cauterization of Cervix.
L. A. Emge—Immediate Trachelorrhaphy.
V. N. Leonard—Post-operative Results of Trachelorrhaphy in Comparison with those of Amputation.
Poirier and Charpy—Human Anatomy.
A. Sturmdorff—Trachelopiastic Methods and Results.

NEW YORK WELFARE AGENCIES UNITE

A news item states that efforts are under way to group, for purposes of co-operation, more than two thousand charitable and welfare organizations of New York. It is reported that "charitable societies, with their increasing specialization and their undeniable duplication of effort, have been subject of late to a considerable amount of criticism from persons who fail to see a reason for their multiplicity."

What a commentary! The reasons ought to be perfectly obvious, but they are not reasons that mean efficient medical and social service for the public.

PRELIMINARY REPORT ON AN INVESTIGATION OF THE "PROVOCATIVE WASSERMANN" CONTROLLED BY THE ICE-BOX METHOD

By RUTH THYGESON SHEPARDSON, A. B., Special Worker, Skin Clinic, Stanford University Medical School

In view of the uncertainty regarding the status of the "provocative Wassermann" test, it was decided to try out the method with the aid of funds from the United States Interdepartmental Social Hygiene Board. This work is being carried on in the service of Professor H. E. Alderson (Skin and Syphilis Clinic) of the Stanford University Medical School. Owing to unforeseen interruptions, the preliminary report has been much delayed. Although recent publications have described and discussed the ice-box method, much of our work antedates the same, having been conducted in 1919-1920.

The "provocative Wassermann" appears still to be in the indefinite stage of experimentation where the opinions as to its value in the diagnosis of syphilis vary anywhere from enthusiastic advocacy to unqualified disapproval.

It was Gennerich in 1910, who first called attention to the phenomenon of a reversal from negative to positive in a Wassermann reaction soon after an injection of salvarsan. He reported twelve cases, each exhibiting one negative before the injection, and becoming positive from twenty-four hours to fifteen days (the major portion within the first three days) after the injection. This observation of Gennerich was soon confirmed by Milian.

In 1914 we read of some experimentation on the subject by Pease. He believed the "provocative" analogous to the Herxheimer reaction, namely the accentuation of the clinical symptoms of syphilis immediately following treatment with salvarsan, and thought that the most reasonable explanation of the "provocative" effect was that more spirochetes were killed just after the injection and, therefore, more bodies thrown into the blood. In his tests he used 0.4-0.6 gms. of neosalvarsan, took the patient's blood immediately before and on several days following the injection, and observed that the reaction was most apt to become positive on the two days following the injection. His conclusions were that the "provocative Wassermann" was valuable in all stages of syphilis, but chiefly in the tertiary stage, and that it was "fully as reliable as the Luetin test" and offered "the best evidence at present of actual cure of lues."

In direct opposition to these favorable observations of Pease, is King's report in 1916. He gets the impression from the literature that the test is by no means on an established basis, and calls attention to the work of Boas and Haller on the factors of technical error and variation in the reagents used in performing any Wassermann test. Boas showed different results with the same serum, same technic, and same reagents at different times. Haller, however, did not discover any appreciable variation in the serum itself, con-

trary to Craig's statement in 1914 that "great variations may occur in the complement-binding power in the sera of untreated syphilis." King observes that in addition to these factors which might influence the result of the Wassermann test, is the fact that the Wassermann test per se is not sufficiently standardized, objections which all those disclaiming the "provocative" strongly emphasize. King, himself, performed "provocatives" in sixteen cases, and in only one was there any provocative effect, and that appeared one hour after the injection of salvarsan. So his conclusion is that "definite proof of the existence of the 'provocative Wassermann' following salvarsan is not at hand at the present time."

In 1917 we read two opposing reports on the "provocative," the first by Stokes and O'Leary, and the second by Craig.

Stokes and O'Leary ran a series on 103 tests. We shall go into a little more detail as to their results, since we have classified our own results more or less along these lines. Their technique was in brief as follows: An injection of 0.3-0.4 gm. salvarsan, a Wassermann test within one week before the injection, blood drawn from each patient on the third, fourth and seventh day after the injection. Three antigens were used, namely, acetone insoluble, alcoholic extract of syphilitic liver, and cholesterinized alcoholic antigen. Of their 103 tests, 18.4 per cent came out definitely positive with the cholesterinized antigen. Of these 26.3 per cent showed no objective clinical signs suggesting syphilis, 73.7 per cent showed suspicious signs, 57.8 per cent showed clear histories of primary and secondary manifestations, 31.5 per cent suspicious histories, and 10.7 per cent no histories. Sixty per cent of the 103, on receiving the therapeutic test, clinched the diagnosis. Of the 81.6 per cent of the 103 cases showing no reversal, 67.8 per cent were clinically suspicious and 65.2 per cent, on receiving active treatment (therapeutic test), showed improvement impressive enough to establish the diagnosis. Their conclusion was that the therapeutic test (60 per cent as opposed to 18 per cent) is of more value than the "provocative," and that if no good clinical ground for suspecting syphilis exists, the percentage of positives in the "provocative" is so small as not to justify the procedure. They ran another series of tests on the "provocative" in 1920 by a modified Noguchi method and obtained 8 per cent positives as opposed to the old 18 per cent, but still held that the provocative was a necessary procedure in a complete and thorough examination for syphilis.

Craig is one of the advocates of the "provocative Wassermann." He recommends this procedure after the reaction has remained negative for at least a year without treatment, and in case this is negative, a spinal fluid examination. He found that a "negative" became "positive" within a few hours to five to six days after the injection, and that his percentage of positive "provocative" effects ran about 20 per cent. He accounts for the reaction on the basis either of more spirachetes killed or greater activity on the part of these organisms after the salvarsan. His opinion is that it is a valuable aid to the diagnosis of cure and the diagnosis of the existence of the disease, and he has used it extensively with good results especially for the latter purpose.

A later article in the literature on the "provocative" is that of Pollitzer. His conclusions are: "(1) The Wassermann test is so subject to errors of various kinds that dependence on a single positive reaction in a series of tests, is not justified. (2) In an uncured case a change from negative to positive may happen to coincide with the provocative injection, and a positive after the injection may be the result of the normal increase in reagent without relation to the injection. (3) In 150 treated cases I found not a single case of "provoked" reaction, while the assumption of a cure in all these is obviously untenable. (4) In a series of temporarily negative cases selected as probably not cured, the provocative test failed to indicate the presence of syphilis not cured. (5) The 'provocative' is a useless and often misleading procedure."

One of the latest reports is that by Strickler, Munson, and Sidlick, in 1920. They gave intravenous arsphenamine to thirty non-syphilitic patients who had a negative Wassermann reaction, a negative syphilitic history and skin lesions definitely non-syphilitic. Following the injection 16, or 66 per cent, gave at least one positive Wassermann; 14, or 58 per cent, gave two or more positive reactions, and 9, or 38 per cent, gave reactions of 2 plus or greater intensity. This would tend to show that perhaps a positive reaction was the product of the arsphenamine.

R. A. Kilduffe, in 1921, injected rabbits intravenously with weekly doses of arsphenamine, neo-arsphenamine, and mercuric chloride, closely approximating in rabbits the conditions in the investigations of Strickler, Munson, and Sidlick on humans. The results were uniformly negative, a positive Wassermann not being produced in any animal in any series.

In our work the technique employed was that used in the Lane Hospital Wassermann Laboratory supervised by Miss Beatrice Howitt. One-half cc. each of guinea pig complement, antigen and normal salt solution plus 1/10 cc. of inactivated patient's serum were incubated one hour at 37.5° C. in the water bath, then taken out and 0.5 cc. each of goat's corpuscles and amboceptor added, and put back into the water bath until hemolysis took place in the proper control tubes. A parallel series had their primary incubation (that is to say, before the hemolytic system was added) in the *ice-box at 4° C.* for four to five hours, and on adding the hemolytic system were then incubated in the water bath as was the other series. Three antigens were employed, cholesterinized beef heart, alcoholic guinea pig heart, and acetone insoluble.

This method of carrying on the tests enables us to get some interesting sidelights on the relative delicacy of the three antigens used, and also

on the *much greater delicacy of the primary ice-box* incubation as opposed to the primary water bath incubation method.

A few words on the subject of the ice-box method. The first one in this country to advocate its use was Archibald McNeil of the Department of Health Laboratories, New York, in 1912-13. He stated that by a four-hour primary incubation in the ice-box there could be obtained 10.3 per cent more positive reactions than by the usual one-hour incubation at 37½° C. Since then repeated investigations on the subject have been made throughout the country. Practically every one has found that the primary ice-box incubation is the more sensitive. Smith and MacNeal (W. J.), in 1916-17, recommended as very satisfactory the simple alcoholic antigen with a four to twenty-four-hour primary ice-box incubation at 8° C. They said that though cholesterinized antigen was more sensitive, it was apt to yield false positives. Berghausen, in 1919, reported that the ice-box method was found by experiment to be so satisfactory that it was adopted at the Cincinnati General Hospital. He stated that there was no evidence of false positives, and recommended the simple alcoholic antigen. Ward Burdick of Denver, in 1920, gives the following comparative statistics:

	Water bath.	Ice box.
Clinically non-luetic	100% negative.	100% negative.
Secondary untreated	100% positive.	100% positive.
Secondary treated	.....	more positives.
Tertiary untreated	55% positives.	100% positives.
Tertiary treated	.....	more positives.

J. A. Kolmer of Philadelphia, after four years' work on seventeen different methods of primary incubation, recommends the ice-box method as the best. He says four to sixteen hours at 8° C., followed by one hour secondary incubation in the water bath, gives admirable results. Rhamy at Fort Wayne, Indiana, in 1921, reports that the ice-box incubation is about 12.6 per cent more sensitive and therefore that much more accurate, and that doubtful positives by the primary water bath incubation method show up as positive by the primary ice-box incubation method.

We found that in the clinically luetic (our series consisting of 134 Wassermanns) the ice-box method yielded 56.6 per cent 3 plus positives as opposed to 32.2 per cent with the water bath method, with none by either method in the clinically non-luetic. We also ran another small series of 220 Wassermanns with the ice-box method on patients having histories *negative* for syphilis, *no clinical signs or symptoms* of the disease and a *negative* Wassermann by the water bath method, and had uniformly *negative* results, thus tending to prove that the ice-box method does not yield false positives. In our tests the cholesterinized antigen was the most sensitive, the simple alcoholic next, and the acetone insoluble the least.

Unfortunately, we were not able to use the ice-box series in computing the number of "provocative" effects, since the old Wassermanns taken before the injection of salvarsan were done only by the water bath method. Therefore, only the first ten cases of this series were considered positive. All of these ten had shown negative Wassermanns by the ice-box method before the provocative injection was given.

The Wassermann reaction before the injection was taken as part of the routine of the Skin clinic, and from one day to two months after taking the blood (the average being under one week) a "provocative" injection of 0.3 to 0.6 gms. arsphenamine was given. Then the blood was taken *every other day*, beginning either the first or second day after the injection, until seven tests were recorded.

	Treated or untreated.	No. of days Wass. negative before prov. inj.	History No. of patient.	Gms. of arsphenamine.	No. of days after inj. before Wass. became positive.	Water bath method.	Ice-box method.	Luetic history.	Clinical symptoms.
1	—	8	88434	0.4	2	+ + +	+ + +	—	—
*2	—	17	59452	0.3	2	— — —	+ + +	±	±
3	—	13	71628	0.6	6	+ + +	+ + +	±	±
4	—	5	78543	0.3	2	+ + +	+ + +	—	—
5	+	6	76754	0.3	a-1	+ — —	+ + —		
					b-9	+ + +	+ + +	—	—
6	+	3	85156	0.6	4	+ + +	+ + +	+	+
7	+	32	65482	0.4	12	+ + +	+ + +	±	+
8	+	4	23909	0.4	5	+ + +	+ + +	+	+
9	+	1	22099	0.4	15	+ + +	+ + +	+	+
†10	+	14	67565	0.3	3	+ + +	+ + +	+	+
11	—	..	82304	0.4	..	— — —	— — —	±	±
12	+	..	89146	0.4	..	— — —	— — —	±	±
13	—	..	81242	0.4	..	— — —	— — —	—	—
14	+	..	34657	0.4	..	— — —	— — —	+	±
15	+	..	16189	0.6	neo.	— — —	— — —	±	±
16	+	..	10056	0.4	..	— — —	— — —	±	±
17	—	..	28179	0.4	..	— — —	+ + +	+	±
18	+	..	62707	0.4	..	— — —	— — —	+	—
19	+	..	41237	0.4	..	— — —	— — —	±	+
20	+	..	44148	0.4	..	— — —	+ + +	±	+
21	+	..	77826	0.4	..	— — —	— — —	+	+
22	—	..	78040	0.3	..	— — —	— — —	—	±
23	—	..	77975	0.3	..	— — —	— — —	—	±
24	+	..	77497	0.3	..	— — —	— — —	±	+
25	—	..	76413	0.4	..	+ — —	+ + +	±	—
26	+	..	75973	0.3	..	a — — —	+ + —		
						b — — —	+ + +	+	—
27	—	..	75357	0.6	..	— — —	— — —	—	—
28	—	..	75639	0.3	..	— — —	+ + —	—	—
29	—	..	87252	0.4	..	— — —	— — —	—	—
30	—	..	85384	0.4	..	— — —	— — —	±	—
31	—	..	83887	0.6	..	— — —	— — —	—	—
32	—	..	84194	0.4	..	— — —	+ + —	±	±
33	—	..	.....	0.4	..	— — —	— — —	—	—
34	—	..	64525	0.4	..	— — —	— — —	—	—
35	+	..	54993	0.6	neo.	— — —	— — —	+	+
36	+	..	62937	0.4	..	— — —	— — —	+	+
37	—	..	88756	0.4	..	— — —	— — —	±	±
38	—	..	88827	0.4	..	— — —	— — —	±	±
39	—	..	87997	0.4	..	— — —	— — —	—	—
40	+	..	87734	0.4	..	— — —	— — —	±	±
41	+	..	79868	0.4	..	— — —	— — —	±	±
42	+	..	79893	0.9	neo.	— — —	— — —	±	±
43	+	..	81810	0.6	..	— — —	— — —	+	+
44	+	..	81688	0.4	..	— — —	— — —	±	±
45	—	..	82076	0.6	..	— — —	— — —	—	—
46	—	..	75103	0.4	..	— — —	— — —	—	—
47	+	..	75426	0.6	..	— — —	— — —	+	+
48	—	..	86566	0.4	..	— — —	— — —	—	—
49	+	..	83415	0.4	..	— — —	+ + —	+	+
50	+	..	83835	0.6	..	— — —	— — —	±	±
51	—	..	84091	0.6	..	— — —	— — —	—	—
52	+	..	83033	0.4	..	— — —	— — —	—	—
53	+	..	83166	0.4	..	— — —	— — —	±	±
54	+	..	83555	0.4	..	— — —	+ + +	—	—
55	—	..	83082	0.4	..	— — —	— — —	—	—
56	—	..	83548	0.4	..	— — —	+ + +	±	±
57	—	..	85825	0.4	..	— — —	— — —	—	—
58	—	..	86000	0.4	..	— — —	— — —	±	—
59	—	..	86880	0.4	..	— — —	— — —	±	—

* Wass. before inj. negative by ice-box, so subsequent ice-box reading could be taken as reversal.
† Wass. negative 14 days before.

There were only *fifty-nine* cases in which we were able to obtain complete data. Of these, ten or 17 per cent showed a reversal from nega-

tive to positive (using the ice-box and water bath method before the injection and afterwards). This occurred in two to fifteen days (average, two to six days) after the injection of arsphenamine. This reversal had to be (in order to be counted) from 3 minus or 1 plus 2 minus to 2 plus 1 minus or 3 plus by the cholesterinized antigen, never from 3 minus to 1 plus 1 minus. The remaining 49 or 83 per cent remained negative throughout.

Of these 49 cases it will be noted that numbers 17, 20, 25, 26, 28, 32, 49, 54, and 56 became positive by the ice-box method, but were not considered "positive provocatives" because the test before the injection had been made by the water bath method only. All of these but two had positive luetic histories or clinical symptoms, or both, so the positive ice-box result is at least suggestive. Had these nine cases been classed as "positive provocatives," of course our percentage of reversals in the positive direction would have been much higher.

Of the ten (17 per cent) positives, 40 per cent had positive histories, 30 per cent had suspicious histories, 30 per cent had negative histories, and 60 per cent had positive clinical symptoms some time, 10 per cent had suspicious clinical symptoms, 30 per cent had negative symptoms.

Of the forty-nine (83 per cent) negatives 28 per cent had positive histories, 37 per cent had suspicious histories, 35 per cent had negative histories, and 25 per cent had positive clinical symptoms at some time, 33 per cent had suspicious clinical symptoms at some time, 42 per cent had negative clinical symptoms.

CONCLUSIONS

1. Our percentage of positives (17 per cent) is about the same as Craig's (20 per cent) and Stokes and O'Leary's (18 per cent). (The 18 per cent obtained by Stokes and O'Leary in 1920 was by the Noguchi method.)

2. A so-called "provocative reaction" does in all probability occur. However, we cannot be sure in the face of all the uncertainties of the Wassermann reaction, that this effect is not due to some imperfectly comprehended factor either in serum, reagents, or technique.

3. If a positive Wassermann does justify treatment, and in 17 per cent of cases this can be obtained by the "provocative" procedure, it might be worth while employing in private practice, but not in clinical practice, where the amount of time necessary for the patient to stay away from work is too great to justify any benefit the patient might receive thereby.

4. We believe that an equally valuable and less time consuming and laborious procedure is to have the patient return for repeated Wassermanns (*to be done by both ice-box and water bath methods*) at varying intervals depending upon the clinical indications and history.

Literature Quoted

Gennerich: Berl. Klin. Wchnschr., 1910, XIVII, 1735.
Millian: Paris, Dermatological Gesellschaft, Dec. 1, 1910.
Pease: Med. Rec., 1914, LXXXV, 982-984.
King: J. M. A., Vol. LXVII, No. 23, 1669.
Boas: Die Wassermannsche Reaktion, 1913.
Haller: J. A. M. A., Vol. LXVI, No. 12, 882.
Craig: J. A. M. A., 1914, LXII, 1232-1236.
Stokes and O'Leary: Am. Jr. Syph., I, 1917, 629.
Craig: Am. Jr. Syph., I, 1917, 192.
Craig: The Wassermann Test, St. Louis, 1918, 197.
Pollitzer: Am. Jour. of Syph., III, 1919, 252-259.
O'Leary: The Provocative Procedure in the Diagnosis of Syphilis, Rochester, Minn., 1920.
Strickler, Munson, and Sidlick: J. A. M. A., 75:1488, 1920.
Kilduffe: J. A. M. A., 76:1489, 1921.
McNeil: Collected Studies of Bureau of Laboratories, Dept. of Health, City of N. Y., 1912-13, VII, 325-326.
Smith and McNeil: Jr. Immun., 1916, II, 75-95.
Smith and McNeil: Jr. Infect. Dis., 1917, XXI, 233-249.
Berghausen: J. A. M. A., 72:996, 1919.
Burdick: Arch. Derm. and Syph., 2:163, 1920.
Kolmer: Am. Jr. Syph., IV, 675-684, 1920.
Rhamy: Am. Jr. Syph., V, 300, 1921.

OPERABILITY OF THE SENILE PROSTATE—A REMINDER TO THE GENERAL PRACTITIONER

By WIRT BRADLEY DAKIN, M. D., Los Angeles

It is the aim of this paper to act as a reminder to those who are too occupied with their professional duties to keep informed regarding senile prostate, or who have forgotten the recent favorable results of the management of this condition, or who have still to be convinced of its truth. It is depressing to the urologist and to the patient to have it said that the patient has a poor chance if operated, and palliative treatment is of uncertain benefit.

Many examples of the results of modern treatment of senile prostate could be given, but for brevity only two cases will be reported.

Case 135—Operated in two stages with a six weeks' interval, two years ago. Age 83. Widower. Teacher by occupation.

At the time of my first examination, this patient was semi-comatose with a complete retention and overflow. During two previous years he had had occasional attacks of retention and had been catheterized.

During the present attack an attempt had been made to keep a retaining catheter in, but the last time it came out the attending physician had been unable to replace it. I had catheterized this patient and had obtained 900 cc. of urine.

The early and usual symptoms of prostate enlargement began ten years previously. Rectal examination showed a very large prostate. No cystoscopy, blood pressure, or kidney functional tests were made. The patient was taken to the hospital at once for a cystotomy and was drained for six weeks before his kidney function or general strength would permit the second operation. It was a week after the first stage before he was clear mentally, and stated that he was unable to recall occurrences of the past two weeks. The second operation required less than fifteen minutes. The bladder wound healed in ten days and the abdominal in eighteen. The patient was up in a wheel chair in four days and walking in nine days. He urinated normally through the urethra on the fourteenth day when his urethral retaining catheter was removed and he has continued to do so ever since. His general health is excellent as shown by frequent walks of from two to five miles for exercise.

Case No. 140—This patient, because of acute retention, was taken to the hospital three years ago. The condition was relieved and although an operation was advised at once, no one would assure the family that the patient could be successfully operated upon, so he was returned home and continued catheterizations.

For two long years the patient's wife had to be a constant companion because he would not let anyone else catheterize him. In addition to having retention he had been totally deaf for thirty years, while all of his urinary trouble could have been avoided had correct information been more readily obtainable.

The remaining history of this case is similar to the first one mentioned. Since the operation the patient has been in excellent health and can be found in a near-by town working in his garden almost every day.

Both of the preceding cases were advised that they were too old, and their general health such that they could not stand any operative procedure.

The usual conditions considered as contra-indications to operative procedure are: Age; urosepsis; asthenia; cardio-vascular changes; possibility of urinary incontinence or impotency following the operation.

Age is no logical contra-indication. Culler collected data on patients, with an average age of sixty-seven years, that he had operated upon during a period of one and a half years. He believes that the average age of these patients suggests that senility may not be a bar to operative procedure as often as supposed, and that certain physical defects in old age are remediable without the high mortality rate anticipated by many. His experience with these old patients inclines him to conclude that aged people are often passed by who may be salvaged without more than ordinary surgical risks and that disaster in such cases is often born out of delay and compromise.

Careful pre-operative attention, reasonable speed in operating and painstaking after treatment will reduce risks which are derived from cardio-renal defects and other concomitants of age.

Anhedonia of senility probably eliminates those surgical risks common in younger patients which grow out of fear and anxiety; indeed, old men appear to face the issue of surgical operation with extraordinary calmness and fortitude and are docile patients during the post-operative period. Culler concludes that senility as a contra-indication to surgical operation is made applicable too generally.

Asthenia, urosepsis, and cardio-vascular changes may all be corrected by proper and sufficiently long pre-operative treatment and under good management these patients regain their strength, appetite, and general health to such an extent that not only the family but the patient remarks that it seems unnecessary to operate at all, because they feel as well as they did before their trouble began. I have had two patients who refused to proceed any further, but were compelled to return later because of recurrences of obstructive symptoms.

Urinary incontinence, except in occasional cases of malignancy, does not occur if patients are carefully operated upon. The family, patient, or physician may have known, however, of such instances and frequently ask for an explanation.

Patients not critically ill, or advanced in years, and not needing an immediate operation, very frequently inquire of the possibility of impotency as a result of operation. In a series of 150 cases I have endeavored to determine this question, and find that if impotency develops just previous to, and as a result of their urinary trouble, there is a partial return of sexual desire, and occasionally they are normal for that period in life. If there was partial or complete impotency previous to the onset of their urinary disturbance, the prostatectomy will have no direct bearing on the case.

Statistics concerning the average duration of life of cases of prostatic obstruction not subject to operation has been best presented by Squier. This author presents a table of thirty-four cases. Conclusions drawn from this series of cases reveal that:

Fifty per cent of unoperated patients die within three years from the onset of obstructive symptoms where catheter life is not necessary.

1. The beginning of catheter life shortens this expectation of life about 50 per cent.
2. Beginning of catheter life increases the mortality of 66⅔ per cent within the shortened period.
3. The average length of life of unoperated carcinomas is thirteen months from the onset of symptoms.

In an interesting article by Deaver rather recent statistics of cases of prostatic obstruction subject to operation are well presented.

"In 1905 Whiteside reported that the average mortality among many American prostatectomists was 20 per cent, with only 30 per cent of complete cures. A similar study was made in 1915 in which the work of thirty-five surgeons was recorded, giving data in 1423 cases. In this latter series about half of the surgeons submitting reports operated on considerably more than half of the 1423 cases. These are the men of wide experience and the mortality rate in their work is less than 3 per cent, in contrast to a mortality rate of 26 per cent, as reported by the less experienced operators.

"As regards post-operative mortality the percentage incidence has fallen from a general average of 70 per cent in 1905, to 18 per cent in 1915, while among the more experienced operators it was but 7 per cent, according to the more recent figures."

The same is true among the English surgeons. In the first series of 100 cases operated upon by Freyer, the mortality rate was 10 per cent; in his last cases it was only 3 per cent, with a general average among 1000 of 5.5 per cent. About the time when Freyer's mortality was slightly over 6 per cent (1908), C. M. Page collected statistics from the records of four London hospitals for the corresponding years and found the mortality rate to be 21.5 per cent. Wade reports a mortality rate of 35.4 per cent from one of the largest hospitals in Scotland for the same period, and states that during the year of 1906, sixty-nine patients were subjected to prostatectomy in St. Thomas' Hospital in London, of whom fourteen died, giving a mortality record of

20.3 per cent. These statistics are, however, the result of operations antidating the present knowledge of operative technique.

SUMMARY

At the present time, taking all cases as they come, including those patients that do not respond in the most satisfactory manner to prolonged preoperative treatment, the mortality ought not to be more than 2 to 5 per cent.

DIARRHOEA IN INFANTS IN RELATION TO CERTAIN FOOD INTOLERANCES.*

By H. H. YERINGTON, M. D., San Francisco, Cal.

During the past few years an immense amount of work has been done in this country on the nutritional diseases of childhood, and out of this work have come many valuable points on the treatment of intestinal disturbances. We are now able to classify many types of diarrhoea, and apply a rational form of treatment to each type.

Owing to our mild California climate, and good milk supply, the infectious or "summer diarrhoea" does not concern us as much as it does the men in our large Eastern cities. However, the disturbance caused by the intolerance in infants for certain foods is present here, and is the subject of this paper.

Food injury is classified by L. T. Royster under three headings:

(1) Acute, in which proper food is given, but the intestinal tract is overloaded.

(2) The accidental administration of an excess of one or more food elements in a bottle baby's formula (either fat, sugar or proteid). In these cases vomiting is more frequent than diarrhoea, fever is absent, and occasionally convultions occur.

(3) Food Injuries (chronic). A child with a beginning intolerance for one of the food elements will eventually acquire an intolerance for all others, if the elemental portion is not regulated in time. Giving an infant an amount of any one of the main food elements, as fat, sugar, or proteid, in excess over a long period of time will cause a diarrhoea which may become fatal. The character of the discharge depends on the food element in excess. A mixture too strong in milk, fed over a short period of time, is a frequent cause of diarrhoea.

The beginning diarrhoea of "Simple Indigestion" is caused by fermentation of carbohydrates and fats, in which saprophytic bacteria are the ones most active. Another type is the putrefactive one caused by the overfeeding of proteid. In both types the activity of the normal intestinal flora become very much altered.

A beginning food injury is often the fault of the physician in allowing the mother to take the responsibility of her infant's bottle feeding. She obtains her information from neighbors or from a feeding book, and the formula which has agreed with another baby may set up a chronic diarrhoea of a severe type in her own infant.

In order to prevent intestinal disorders in infants, we must be familiar with the percentages of foods, and know something of their caloric or food values. Most important of all, we must be able to do routine stool examinations and know something about modern pathology of the intestinal excretian.

Infants sufferings from a beginning food injury often show very characteristic symptoms. The patient who has been overfed with high fat mixtures or too much milk is fussy, cries continually, sleeps on his abdomen or on his arms and knees; the stools in this case are at first soft, buttery, contain soft white curds, and is often called the "scrambled egg" stool. When the case becomes more chronic the stool becomes hard, crumbly and is of a grayish color. The fat in the latter stool is in combination with calcium and magnesium and are typical "soap stools." When the excess of fat becomes greater, a relative acidosis results, with an excess of ammonia in the urine. There is then a diarrhœa with very frequent, watery, acid stools.

Indigestion from carbohydrates is produced by an excessive amount of sugar or starch in the food, and the characteristic symptoms are vomiting, flatulence and colic. These babies are very uncomfortable, the buttox is raw and irritated with acid stools. The passages are loose, green in color, very acid in reaction and show marked evidence of fermentation. The microscopic examination is important. The fat globules show red when stained with acetic acid Soudan iii, and the starch grains blue with Lugol's Solution. Both the fat and carbohydrate stools are acid and the protein stool alkaline in reaction.

The protein type of indigestion is much more frequent in the breast than in the bottle-fed baby and is usually easily corrected.

The symptoms from an excess of casein are vomiting of large tough curds, flatulence, and somnolence. The stools are liquid, brown in color, with a putrefactive odor, and contain large bean-like curds. A point in the differential diagnosis between a fat and proteid curd is that the former will dissolve in ether and the latter will not.

We now come to the extreme type of food injury or extreme malnutrition, with marked diarrhœa, which is so resistant to treatment. These cases are the ones having an intolerance for all food.

The characteristic thing about these babies is the extreme degree of dehydration they present. The loss of weight is rapid, there is no subcutaneous fat and the bones appear prominent through the dried-out skin. The eyes are sunken and the fontanel depressed. The skin is gray and pallid and lacks elasticity. The respiration is deep, and the pulse soft and rapid. The rectal temperature at times reaches 103° or 104° F. The child is very apathetic, crying at times, then lapsing into a semi-comatose condition. The liver and spleen are usually palpable and the abdomen scaphoid. Very little urine is passed and it contains small amounts of albumen.

* From the Sub-division of Pediatrics, Medical Department of Stanford University. Read before the Fiftieth Annual Meeting of the Medical Society of the State of California, San Diego, May, 1921.

Infants are in a critical condition, and unless careful treatment is instituted, death will result within a few hours' time.

In discussing these cases, Marriott has observed that there is a marked acidosis present; due to a decreased volume flow of blood, which leads to an accumulation of acid products of metabolism in the tissues and a decreased alkaline reserve of the blood. If the volume flow of blood is diminished in the abdominal vessels, the functional ability of the gastro-intestinal tract to care for food is impaired, and if normal amounts of food are given diarrhœa results.

Fever is produced by the decreased amount of water in the body available for evaporation, and water evaporation is of great importance in the heat regulation of the infant's body. Fever, as a result of dehydration, has been frequently seen in infants, adults, and animals, and examples are seen in the starvation temperature of new-born infants.

If an infant suffering from diarrhœa is given food, especially sugars or fats, the diarrhœa in the majority of cases becomes worse, and the degree of anhydremia tends to become greater.

It is imperative, then, in these cases to get fluid into the system, and as these babies cannot take enough water by mouth to be of any benefit, other methods must be employed. Howland considers the injecting of Ringer's Solution into the peritonial cavity the most efficient means of accomplishing this. Another valuable method is the intravenous injection of a glucose solution. The latter is found useful because the carbohydrate spares the protein destruction going on in the body. Added fluid may be given by mouth in small quantities and by subcutaneous injections.

The next thing to do is to get food which can be used immediately and one which the baby can tolerate. As the majority of these infants are suffering from intolerance of both fat and carbohydrate, the ideal food would be one high in proteid, which would change the intestinal flora from a fermentative acid state to a putrefactive alkaline state. Eiweissmilch, protein or albumen milk, fills this requirement, being high in proteid, low in carbohydrates and fats, and has a relative high food value. This preparation is made by separating the whey from the curd, breaking the curd up into fine particles by putting it through a sieve and then adding buttermilk to the mixture. This gives us a mixture containing:

Fat	2.5%
Sugar	1.5%
Protein	3.0%
Salts	0.5%

The preparation can be made fat free by using a fat-free milk. Certain manufacturers put out products, such as "Larasan," which are much simpler to make up and produce the same beneficial results.

In closing this paper, I would like to describe two cases which illustrate the remarks I have made, and bring to your attention the practical treatment of such cases.

Baby M., age 9 months, weight 9 lbs. 8 oz., admitted to hospital June 28, 1920. Discharged July 15. This baby was three weeks premature, doing well on the breast for two months, then up to the fifth month did poorly on artificial foods, especially high fats; then it had influenza, from which it recovered. Since then the baby has been on Eskay's Condensed Milk, top milk mixtures, and lately fresh undiluted goats' milk. For the past two weeks there has been vomiting, diarrhœa, curdy, acid, fat-type stools, with a loss of two pounds in weight.

Physical Examination—Shows a very thin, marasmic-type baby, skin dry, hanging loosely on the body, abdomen distended, tympanitic, liver enlarged, spleen palpable. The extremities are thin, cold, musculature poor. The baby has the appearance of being very much dehydrated.

The child is having frequent, watery, frothy, acid stools. The buttox is excoreated. It regurgitates all food given to it and at present refuses to take its bottle. The pulse is rapid and of low tension. Temperature ranges between 98° and 103° F. and the child is restless and uncomfortable, crying when disturbed.

Hospital Record—On admission the baby was put in a warm bed, flushed out, and given a weak milk, dextro-maltrose, barley water mixture by mouth. What little was taken of this was regurgitated, and an attempt was then made to give the baby a soda solution after the stomach had been washed out. The frequent movements continued and the patient was very restless and uncomfortable during the day.

At 6 p. m. pulse was more rapid, temperature 103.8° F., restlessness more marked, bowels still very loose, and the child looked as if it would die before morning.

At 7 p. m. an intraperitoneal injection of 350 cc. of normal saline was given, followed immediately by an intravenous injection, via the superior longitudinal sinus, of 50 cc. of a 5% solution of glucose. The child had a much more comfortable night, and at 8 in the morning 400 cc. of normal saline was again injected into the peritoneal cavity, followed by 50 cc. of 5% lucose by vein. Following these injections the temperature dropped from 103.2° to 100.6° F., the child slept and the pulse become stronger and slower. At 12 m. the following formula was given:

Fat-Free Protein Milk	24 ounces
Dextro-Maltrose	1 tablespoonful
Barley Water	8 ounces

Six ounces to be given every four hours and five feedings in twenty-four hours.

During the next twenty-four hours the stomach was washed with plain water before each feeding, and the feeding then given by tube. At the end of twenty-four hours the baby had regained a pound of its weight and the improvement in its general condition was marked. The baby went home in three weeks on a whole milk formula, with cereal and beef juice, and seven weeks from admission it was well and contented, weighing 12 lbs. and 6 ounces, a gain of three pounds and four ounces.

This case is typical of a fat and sugar intolerance, with a marked dehydration, saved by the

injection of large quantities of fluid at a critical period.

Baby L., age 3 months, weight 13 lbs., entered Stanford Hospital October 2, 1918.

This baby was perfectly normal at birth, breast fed up to the present time. Has always been fussy, and has spit up curds and had rather liquid foul-smelling stools most of its life. A week ago the mother contracted typhoid fever and was admitted to the hospital with her baby.

EXAMINATION.—The baby was very well nourished, but anæmic looking, with dark circles under the eyes. The musculature was flabby, and although the baby was happy, it did not seem to have the activity of a normal baby of its age. Eyes and ears were negative, lungs clear, heart normal. The abdomen was soft, no deep glands palpable, spleen easily felt, liver negative. No rigidity of the neck, skin clear. The stools and a Widal showed no evidence of typhoid. The temperature was 99.2° F., pulse 120, respiration 24. The stools were alkaline, liquid, full of curds, and foul smelling. The baby was put on a formula of: Cow's milk, 18 oz.; water, 16 oz.; milk sugar, ½ oz.

From October 2 to 6 the child did fairly well, but still had curdy, loose stools and a temperature ranging from 99° F. to 102.4° F. On October 8 the baby had lost twelve ounces, began to vomit curds and was put on a skimmed milk mixture. The child at the time looked rather toxic.

On October 8 a formula composed of: Protein milk, 20 oz.; water, 14 oz.; Dextro-Maltrose, ½ ounce.

The following day the temperature went up to 104.8° F., and during the day there were twelve foul-smelling liquid bowel movements. The stools were cultured and contained numerous stripococcal colonies with quite a growth of the bacillus proteus.

At 11 o'clock that night the child was very toxic, restless and moving the head from side to side. The temperature was 100° and respiration 100; no involvement of the lungs. Dr. Langley Porter was called into consultation and made a diagnosis of a toxemia, with split proteid intoxication.

The following treatment was carried out. The bowel was washed out twice daily, with two quarts of water containing two drams of sodium bicarbonate and Murphy dripe of 5% glucose were given. Milk was discontinued and a formula of Dextro-Maltrose, 2 tablespoonfuls; water, 20 ounces; three ounces every two and a half hours were given.

The next day the child was very much improved and a tablespoonful of breast milk was added to the mixture. Two days later the bowel movements were formed, soft yellow, and the baby was non-toxic. On December 2, a month later, the baby left the hospital on a whole milk mixture in good general condition.

This case is an excellent example of a baby having an intolerance for proteids, which was corrected by giving carbohydrate feedings.

THE MEANING OF THE PASSAGE OF INTRAPARTUM MECONIUM.*

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The significance of the passage of intrapartum meconium has been a matter of interest to obstetricians for many years. Unfortunately at the present time there is no unanimity of opinion, although the great majority agree that in vertex presentations it is a sign of grave moment and indicative of impending fetal asphyxia. All unite, however, in stating that it is of no significance in breech deliveries. Some believe that the sign is of uncertain value, yet others believe that it constitutes an indication for immediate delivery if it can be done without adding to the risk of the mother. Our interest in this matter has been aroused by the large number of cases which passed intrapartum meconium just before labor, but which gave no other evidences of danger either by change in the rate of the fetal heart or by being born in asphyxia. Seeking to ascertain the true value of the sign, we have reviewed our series of 3700 deliveries and have made a study of the literature.

The first statement on the subject was made by Völtern in 1687, who wrote that the most certain sign that the child is dead in utero is when the umbilical cord tears and when a tarlike material is expressed from the anus, although many children die without this phenomenon. Völtern further states that German midwives had long considered the passage of meconium a certain sign of death. Since then the subject has been reviewed at infrequent periods by a number of authors.

It appears as a result of our study that the majority of textbook authors base their views upon the work of Schwartz, who published in 1858 his work on fetal asphyxia, in which he claimed that if the fetus passes meconium it means, if not death of the fetus, at least danger of its death in the act of birth. This view was considerably altered by Jesse in 1888, who made the first tabulated study of this subject, but whose work appears to have been overlooked. His study was based upon 3340 labors in Ahfeld's Clinic in Marburg. Meconium was passed in 9½ per cent of the cases. Seventy-four children of this series were born dead, seventy-four were more or less asyphyxiated and 176 were born without evidence of asphyxia. As a result he concluded that the passage of meconium alone did not constitute an indication for forced delivery. The subject was again investigated six years later by Rossa in Gratz in 1894 in a comparatively small series of eighty-five cases, which, however, were studied exhaustively. His work more or less confirmed the observations of Jesse. Since beginning our investigations there has appeared a publication on this subject by Gejrot in Stockholm in 1920. This author reviewed the labors of 6435 vertex presentations, in which in-

* Read before the Fiftieth Annual Meeting of the Medical Society of the State of California, Coronado, May, 1921.

trauterine meconium was passed in 5.6 per cent (369 cases). Eighty-three and a half per cent of the children that passed meconium were not asphyxiated, 10 per cent were slightly asphyxiated, 3 per cent were deeply asphyxiated and 3½ per cent were born dead. Gejrot's study shows that children who pass meconium after rupture of the membranes were more likely to be born asphyxiated than those who had passed meconium before the membranes ruptured. Especially when the membranes ruptured early and meconium did not appear until many hours later was the prognosis very grave. The fetal heart tones were not altered in 80 per cent of his cases. Of the remaining, 20 per cent whose fetal heart showed change during labor, approximately one-half were born either deeply asphyxiated or dead. His study indicated that this 10 per cent passed meconium simultaneously with the appearance of deep asphyxia. In a smaller percentage of cases meconium had been passed early in labor and one could not determine, therefore, whether more had been passed later at the beginning of deep asphyxia.

When we tabulate the study of other authors we find that the percentage of cases which pass meconium during labor varies considerably. Thus Kehrer gives 4 per cent, Gejrot 5.6 per cent, Jesse 9.38 per cent, Rossa 16 2-3 per cent of vertex cases. The study of the literature has impressed upon us the importance of distinguishing between cases which pass meconium prior to labor and which have it dissolved in the amniotic fluid and those which pass it during birth. Fresh meconium is flaky and of the typical greenish-brown appearance. Old meconium is dissolved in the amniotic fluid, to which it imparts a green color. The latter is quite different from that seen when the fetus has become macerated or when blood has become dissolved in the amniotic fluid.

With these points in mind, we have investigated the frequency and meaning of meconium in 3700 cases delivered in the University of California Woman's Clinic. We have found, with Rossa, that when cases were not studied with the definite point in mind the passage of meconium may easily be overlooked; thus in long, difficult labors it would be noted and recorded if it occurred, yet it could easily be overlooked in cases with short, normal labors, thus making its prognostic significance seem more serious than it actually is.

In our last 1300 hospital cases this point has been especially studied, and we found 101 cases which passed meconium during labor, or 7.7 per cent, whereas in the previous 1700 it occurred in only thirty-five cases, or 2 per cent. In 700 cases on the outside service, all multiparae with comparatively short and easy labors, there were but seven cases, or 1 per cent. On reviewing these cases, we found that the prognosis in these three groups did not vary as much as one might expect. Thus, of the 101 cases in the last series of 1300, 73 per cent were born unasphyxiated or with such slight evidences that no resuscitative measures were necessary. In the first series of 1700 cases, 66 per cent of the children that passed meconium required no resuscitation. Of the 700 cases on the outside service, 71 per cent of the babies that passed meconium were not asphyxiated. Eight per cent of the cases noted in the study of 1300 cases were born dead, as were 14 per cent of the first series of 1700 and 13 per cent of the outside service.

Classifying our cases in the groups suggested by Rossa, we find that of the 143 cases, in seventy the amniotic fluid was stained with meconium at the time of rupture of the membranes; in forty-one it was clear at the time of rupture but meconium appeared before the birth of the child, while in thirty-two more it was not noted before the child was born, but the amniotic fluid following the child was discolored.

Of the first group of seventy cases, fifty-two were entirely normal at birth, five showed very slight evidences of asphyxia but soon cried lustily without special efforts at resuscitation; three were moderately asphyxiated, requiring artificial respiration for several minutes; three were deeply asphyxiated, but were resuscitated after prolonged effort, while seven could not be resuscitated. Thus in fifty-seven, or 81.4 per cent, of cases in which meconium appeared in the amniotic fluid at the time of rupture of the membranes, respiration was established immediately, or in a very few minutes, without artificial aid.

Fetal heart changes were absent in the cases which showed no asphyxia at birth. Our study indicates that meconium appearing in the amniotic fluid at the time of rupture of the membranes is usually not accompanied by fetal asphyxia. A few cases, however, presented definite asphyxia, and all of these had changes in the rate and rhythm of the fetal heart.

In a considerable proportion of these it could be definitely determined that the meconium was fresh meconium. In others, old meconium was passed without signs of asphyxia at the time of rupture of the membranes, while later, sometimes after many hours, asphyxia developed from causes not yet operative at the time of rupture. In a few of these it could be determined that fresh meconium was passed at this later time.

Meconium appearing later in labor where the fluid was clear at the time of rupture of the membranes was noted in forty-one cases. The prognosis in this series is considerably more serious, yet seventeen of these cases showed neither changes in the fetal heart nor evidence of asphyxia when born. Six showed very slight asphyxia, making twenty-three, or 56 per cent, of the series in which respiration was normally established without artificial aid. Seven were born dead, six deeply asphyxiated, five moderately so. These were all cases of prolonged, difficult labor, and all showed changes in the fetal heart.

Thirty-two cases showed no meconium before the birth of the child, yet meconium appeared in the fluid following it. Seventeen were unasphyxiated, five slightly, making twenty-two, or 68 per cent, which required no resuscitation. Six showed

moderate asphyxia, and in three of these there was difficulty in delivering the body of the child, due to large shoulders. The fetal heart was normal when last noted in all of these cases, yet no notes were given in the moment just before birth. Four were deeply asphyxiated, one of these could not be resuscitated, death in this case probably occurring during the operative delivery from compression of a tight loop of cord about the child's neck.

Meconium appearing after changes in the fetal heart seems in a number of cases to signal the development of a very deep asphyxia. In five of the cases of fetal death other evidence of fetal distress had already appeared and operative measures were already being undertaken or normal labor proceeding so rapidly that delivery was accomplished in a very few minutes, but the child, when born, could not be resuscitated.

In other cases fetal asphyxia, even sufficiently severe to end fatally, may develop without the appearance of meconium in the amniotic fluid. This happens particularly in cases where the death of the fetus is due to severe hemorrhage, as in placenta praevia, or from premature separation of the placenta, as has been shown by Altenbach.

If, then, meconium, as in these cases, is not always a sign of very early asphyxia, it is probable that its appearance in the cases which appeared normal at birth is entirely independent of asphyxia. This probably holds true especially in the cases where it appears on rupture of the membranes, since fetal distress rarely develops in the first stage. In any consideration of the subject it appears, then, necessary to review the influences which might act on the child through the mother, such as toxic states of the mother or of drugs administered to her.

Since the time when Porak in 1875 stated that the administration of quinin was frequently followed by meconium, the view has held that its administration causes physiologic changes in the fetus, which are followed by the passage of meconium, yet both Porak, and subsequently Runge, showed that, although meconium frequently appeared during the expulsive period, there was no slowing of the fetal heart and the forewaters were uniformly clear. As castor oil and quinin are frequently employed to induce labor, we have thought it of interest to review the meconium cases in 385 of our cases in which labor was so induced. Only 6.5 per cent, or 1 per cent less than the meconium of our total series, passed meconium subsequent to the administration of castor oil and quinin. The dosage usually given is .6 of a gram of quinin repeated in an hour, following 30 cc. of castor oil. The castor oil administered to the mothers also had no effect upon the child, nor did any other cathartic which was administered early in labor.

Nitrous oxide analgesia was used in practically all of the 1300 cases for varying periods of time. Nitrous oxide anaesthesia and in a few cases ether were used where operative delivery became necessary. No effect of the anaesthesia on the passage of meconium could be observed. Toxemia cases which presented elevated blood pressure and urinary findings have been considered, but we have been unable to find that there is an increased number of cases passing meconium in mothers showing these evidences of toxemia. Rossa has suggested that severe infectious diseases in the mother might influence the child and cause it to pass meconium. In a study of forty-five cases which developed influenza during pregnancy or labor in the recent epidemic, none showed meconium during labor.

The size of the child is a matter of some interest, since previous authors have found that the weight of the children presenting meconium usually fell within the normal limits of weight. Seeking to follow out Rossa's contention that an overdeveloped child might pass meconium during labor because the bowels became too full, we have reviewed the weights of our series. We have taken as large or postmature one which weighed 4000 grams or more. The average incidence of children of this size in our clinic was found by Dr. Maxwell to be 4.3 per cent, while 22 per cent of our total meconium cases were children of this weight, thus showing the high proportion of overdeveloped children passing meconium during labor. (Many of these were one to four weeks overdue, but only 23 per cent of this series had labor induced with castor oil and quinin, while 20 per cent of the whole meconium series had received castor oil and quinin.) The percentage of asphyxia in the larger children who passed meconium is not greater than in the smaller children, since 80 per cent were born normal or with very slight asphyxia. Deeper asphyxia, which we might expect as a result of more difficult labors, was even rarer. There were no deaths in the postmature series and only one was deeply asphyxiated, a child which weighed 5250 grams and which was delivered by a difficult high forceps. A number of the cases of moderate asphyxia had had difficulty in delivery from impaction of the shoulders.

As a result of our study, we seem justified in presenting the following conclusions:

The passage of meconium by the child during labor is in a large majority of cases entirely independent of fetal asphyxia. The passage of old meconium at the time of rupture of the membranes is of no prognostic value as to the later development of asphyxia. Fresh meconium, with rupture of the membranes or later in labor, may or may not be associated with asphyxia. In the latter case changes in the fetal heart sounds are present also. Meconium appearing after other signs of fetal distress is frequently a sign of the onset of very deep asphyxia and the child may perish even though delivery be very rapidly accomplished. A strikingly high proportion of overlarge children pass meconium, in most cases without serious significance. The cause of the passage of meconium in cases without asphyxia cannot as yet be definitely stated.

DETERMINATION OF THE EXTENT AND NATURE OF THE RENAL LESION IN BRIGHT'S DISEASE *

By THOMAS ADDIS, M. D.

(From the Medical Department of Stanford University Medical School, San Francisco)

This year Christian has collected in a text book [1] a summary of the more important facts which have been established as to Bright's disease. He and his collaborators have made careful and extensive investigations with the most recent methods and his critical review of our present position therefore carries great weight. When I had read it I looked up Bright's Medical Cases,[2] published nearly a century ago. The differences were interesting. One of the most striking was the presence in the modern treatise of many tables of figures giving the results of functional tests. There were no figures in the old book. Yet Bright had noted the existence of changes in the volume of urine and in the amount of albumen it contained. He had even in certain cases observed that the amount of urea in the blood was increased, though at the same time there was less than usual in the urine. In another type of case he had noted the existence of lipemia and of a decrease in the protein content of the blood. We are now able to give a quantitative numerical expression to these qualitative observations of Bright's. But this difference is, after all, often only superficial. No one, I imagine, would be more ready than Dr. Christian to admit that our modern exactitude of expression does not necessarily carry with it any greater knowledge than Bright possessed as to the origin and significance of the changes we can now follow so closely.

But there was another and a more fundamental difference between the new and the old. It lay in the attitude taken towards the relation between functure and structure. The modern point of view, and I believe this fairly represents the feeling of those who have had most experience, appears to be that it is illusory to attempt to draw anatomical deductions from our clinical observations and functional tests. Bright would never have subscribed to this opinion. The sub-title of his book is, "illustrating the symptoms and cure of diseases *by a reference to morbid anatomy.*"

It was to anatomy, not to physiology, that he looked for the clue to treatment. He studied functional abnormalities in his patients as aids towards the construction in his mind of a clear picture of the structural defects from which they arose. He believed that as experience accumulated it would be possible for the physician to see through the varying symptomatology and changing functional reactions to the hidden anatomical cause. But as a matter of fact, as experience has accumulated, as methods which supposedly measure the functional capacity of the kidneys have developed, the discrepancy between clinical predictions and post-mortem findings has become more and more apparent.

The recent review I mentioned admits the impossibility of making an anatomical diagnosis. During the last decade there has been a tendency not only to admit this fact, but to set it aside as of no moment. We are now inclined to take the results of functional tests as ends in themselves and not as means towards an anatomical diagnosis. We comfort ourselves with such statements as, "It is more important to know what the kidney can do than to be able to say what it looks like," and so on.

This modern spirit of resignation in failure is due not only to a deeper knowledge of the difficulties of the task Bright set, but in part at least it rests on a satisfaction with our new functional methods. Even if it must be admitted that our results are not always in accord with anatomical findings, we can say that that may after all be due to the inadequacy of histological technique. It is easy to point to special instances where this is certainly true. It is easy for the clinician to believe in his methods and to wait with patience for the anatomy of the future to come into line with his clinical physiology.

There is, of course, plenty of evidence that the present divorce between clinical and pathological findings is in part due to the inadequacy of clinical and not of histological methods. For instance, in circumstances where there is no possibility of any structural abnormality invisible to the microscope, in cases where the renal tissue is entirely normal, we can remove half of that tissue from the body by taking out one kidney, and yet find that the results of the methods now in use will still lie well within the range of normal variation. If our methods cannot tell us when half the renal tissue has been removed, it is clear they are not able to tell us how extensive has been the destruction of tissue in a case of Bright's disease. Yet this is a practical anatomical question which may be of great importance for treatment and prognosis.

It should not be impossible to develop a functional method which would answer this question; for it is axiomatic that functional activity can manifest itself only through and by means of structure. It should be possible to find conditions under which functional activity is limited by structure, so that we could take our functional results as an indirect measure of the amount of secreting tissue present. Since 1913 we have been working at this problem, and as a result of experimental work [3] we have developed a functional method which I believe enables us to make a rough estimate of the amount of actively secreting renal tissue in the living kidney.

The main requirements of such a test became apparent as a result of a study of the factors influencing the degree of variability in the function of the normal kidney. Everyone is familiar with the wide fluctuations in the activity of the kidney, even of the same kidney under apparently identical external conditions. Since the structure is constant, such variations in function must be caused by other than anatomical factors. It was found that no matter how carefully external factors, such as food and water intake, were controlled, there was still a considerable variation in the

* The work on which this paper is based has been aided during the past year by a fund raised by Mr. Wellington Gregg and his friends.

activity of the kidney when measured over short time periods, and that this variation was in part explained by changes in the concentration of urinary constituents in the blood. It was necessary, therefore, to choose some substances whose concentration in the blood could be accurately determined during the period when its rate of excretion was being measured. This substance had also to be one of the so-called "non-threshold" substances, for otherwise changes in the threshold which could not be controlled or measured might influence the results.

We chose urea and studied the factors which induced those variations in the rate of urea excretion which were not to be accounted for by changes in the concentration of urea in the blood. The external requirements of the method were thus determined. But even after the elimination of many disturbing factors, and even though the effect of changes in blood urea concentration had been discounted, there still remained a considerable variability in the rate of urea excretion. It was only when the kidney was put under strain by the administration of large amounts of urea and water that this variability disappeared.

Everyone is familiar with the relative constancy of action of the kidney in terminal cases of chronic Bright's disease, when there is retention of urinary constituents in the blood and very little normal renal tissue left. Normal kidneys show the same constancy when they are given more work than they have ever had to do before, more work than they can at once perform. By giving a large amount of urea by mouth a temporary uremia is produced. Under these conditions all the kidney tissue works at top speed, and the rate of urea excretion is limited only by the amount of actively secreting tissue present.

The details of the test are as follows: The blood urea concentration is first determined in order to find how much urea will have to be given. If, as often happens even in fairly far advanced cases of Bright's disease, there is no increase in the amount of urea in the blood, the patient is given 30 grams of urea, or 20, 15, 10 or 5 grams, depending on the degree of urea retention which may be present. If the urea concentration in the blood is over 75 mgs. per 100 cc., no urea need be given. At 6 a. m. next morning the patient slowly drinks a quart of water in which the required amount of urea has been dissolved, and every hour thereafter drinks two glasses of water. No breakfast may be taken, since protein food has a marked effect on the rate of urea excretion quite apart from its effect on the blood urea concentration. By 9 a. m. the apex of the curve of the raised blood urea concentration is passed and during the next three hours it falls slowly. This is the time during which three accurately timed urine collections are made, and the level of the curve of blood urea concentration determined by analyzing three samples of blood drawn in the middle of each of the three periods over which the rate of urea excretion is measured. From these the rates of urea excretion per hour are calculated and divided by the amounts of urea found in 100 cc. of the blood obtained in the middle of each period. In the same individual under these conditions this ratio remains nearly constant.

In different normal individuals there are constant individual differences. The average ratio for normal individuals is approximately 50—i. e., there is 50 times more urea excreted in one hour's urine than is found in 100 cc. of blood removed while the urea is being excreted. This is independent of the actual level of blood urea concentration. We have a large number of observations of normal individuals, but we are still collecting further data, and it will be some time before it will be possible to determine the probable error of the ratio in normals. We have a series of observations on patients on whom the blood urea concentration and the phenolsulphonephthalein test gave normal results, who yet gave ratios below the lower limit of normal variation. In such cases we believe that the degree of depression of the ratio measures in an approximate manner the degree of destruction of the actively secreting renal tissue. We believe that from these functional results we are justified in drawing conclusions as to the extent of the pathological process in the kidney.

There is another anatomical question often of the utmost clinical importance which is for the most part neglected by the clinician. Prognosis depends not only on the extent but also on the nature of the renal lesion. Inflammatory conditions in which the glomeruli are involved are the most grave, since this type of lesion sometimes progresses until almost no normal renal tissue is left, and even if it heals, always leaves scars. The degenerations are relatively seldom progressive, and on account of the great capacity of the tubules for regeneration, often end in a complete restitution of the secreting tissue. The atrophic lesions, though progressive, are usually so slow that prognosis is good so far as the kidney is concerned. But in making these distinctions, clinical symptomatology is a very poor guide and functional results are of little value. The only method available is the direct one of looking in the urine for anatomical evidences of renal inflammation, degeneration or atrophy. We have, therefore, for some years carried on a systematic investigation of the urinary sediment in cases of Bright's disease. It was soon found that a certain uniformity in the conditions under which the urine was collected was necessary, and since we observed a disappearance of casts in serial observations on cases in whom diuresis was induced by water drinking, we adopted the following plan under which a urine of high concentration is obtained in all except terminal cases of chronic Bright's disease:

The patient is given a wide-necked cylindrical bottle with written instructions to the effect that from breakfast time until next morning, when the urine is collected, no fluids of any sort are to be taken, that at a certain hour in the evening urine is to be voided and discarded, and that next morning the whole twelve hours' night urine is to be

passed directly into the bottle. The urine so collected is allowed to sediment for an hour, and 30 cc. are then carefully pipetted from the bottom of the bottle, special care being taken in so doing that the pipette passes all round the rim and over the whole surface of the bottom of the vessel. The sediment thus collected is centrifuged, the centrifuge inverted at an angle of about 20 degrees so that all of the urine drains off, and the deposit at the tip is removed by a capillary pipette to a slide, while the inverted position of the centrifuge tube is still maintained. If this is not done the urine hanging on the edge of the tube will run back and dilute the centrifuged deposit. In cases where we know that a large number of casts are to be expected we mix up the whole twelve hours' urine and centrifuge in a graduated tube. All but 0.5 or 0.25 cc. of urine is then pipetted off, leaving the deposit undisturbed. After thorough mixing, a drop is placed on a white blood cell counter and from the count the total number of casts in the twelve-hour specimen is calculated. In cases where there are only a few casts they can be counted directly on a slide. In all cases where a sufficient number can be found a differential count of the casts is made. Note is also made of the number of red blood cells, leucocytes, and epithelial cells.

This method has been especially helpful in the diagnosis of glomerular nephritis, the only clinically important form of Bright's disease in which an acute inflammatory lesion is primary. During the early stages, as might be expected, there are large numbers of leucocytes and red blood cells in the urine, but in this there is nothing which can be taken as indicative of glomerular inflammation, since blood and pus are common to an acute inflammatory lesion anywhere in the urinary tract. But there is one form of cast, the blood cast, which I believe is found only in glomerular nephritis. I have not been able to find anywhere a description of the many forms and appearances which blood casts may take. The erythrocytes often become so agglutinated that they are no longer recognizable and only the deep yellow or brownish color remains to indicate the original composition of the cast. It requires some experience to be able to distinguish this form of blood cast from the granular cast, originally epithelial, which is yellow because of the presence of a pigment which appears to be analagous to the pigment found in the cardiac muscle cells in "brown atrophy" of the heart.

But it is especially in the later stages of glomerular nephritis that the finding of blood casts appears to be of special diagnostic importance. We have a number of cases under observation in whose urine a few, sometimes only one or two, blood casts are almost constantly found. In some of these cases there has been a preceding acute glomerular nephritis with general anasarca, but in most of them there is not even a history suggestive of such a condition. If these kidneys could be examined microscopically I believe it would be found that a few glomeruli would show evidence of an active inflammatory lesion. Some of these glomeruli will in time be so damaged as to become functionless and their tubules will degenerate and be replaced by fibrous tissue. As this process extends to other renal elements there will be a slow disintegration of the secreting tissue.

In a few cases which we have been able to follow for some years it would appear that the progress of the pathological process is so slow that the condition may never produce a lesion so extensive as to be of clinical importance. But it seems not improbable that it is these commonly unrecognized cases of focal glomerular nephritis which may be seen for the first time when complete renal insufficiency is impending and in whose small cirrhotic kidneys the pathologist finds evidence that the primary lesion has been a glomerular inflammation.

The cases of Bright's disease in which a degeneration of the parenchyma of the kidney is the primary lesion give evidence of damage to the tubular epithalium in the form of epithalial casts and of the coarsely granular casts which are derived from the disintegration of the epithalial cells. In certain forms, also, the sediment shows many hyeline and epithelial casts with fat droplets. Some of these droplets are doubly refractile. They are not pathognomonic of a fatty degeneration of the renal cells, since we have confirmed Gross's statement [4] that they may be produced in any case of Bright's disease by feeding cholesterol. But this finding is none the less of diagnostic importance, since it is found in a group of cases which form a distinct subdivision of Bright's disease, with its own peculiarities of prognosis and its own special requirement as regards treatment.

Although many instances in which a degeneration is the primary lesion recover completely, there are a certain number, larger I believe than is usually supposed, in which the condition progresses

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Is It Chiro-Quack-Tic?—Under this heading Leslie's Weekly, beginning with the issue of January 4, is running a series of articles of incalculable value to the public. These articles, written by Mr. Severance Johnson, an experienced writer, are of the same general character that Samuel Hopkins Adams used in "The Great American Fraud" a great many years ago. Not only physicians but every citizen should read these articles and see what they are really invited to support by their ballots and by their co-operation in this and in other States. Leslie's Weekly is rendering the public a splendid service in the publication of these articles, and physicians above all people should read them and pass their copies along for other people to read.

Arizona, California and Nevada Sections of the American College of Surgeons—The first group meeting of the three States was held in one of the hotels of Los Angeles on February 17 to 18. Stanley Stillman of San Francisco, chairman; Lewis R. Morton of Los Angeles, secretary, and Granville MacGowan of Los Angeles, chairman of the committee on arrangements. One meeting was devoted to questions of hospital betterment. There were two scientific surgical meetings, and one morning was given over to clinical demonstrations in Los Angeles hospitals.

to a stage in which the destruction of secreting tissue is so great that the remaining tissues become insufficient for life. We followed one such case through almost its entire course and found in the end a contracting kidney in which the microscopical findings indicated that a degeneration was the primary lesion, and we have several others under observation in various stages of renal decompensation. In none of these cases have blood casts ever been found.

Kidneys in which there is neither an acute glomerular inflammation nor any pronounced tubular degeneration may suffer a slow and partial atrophy which is associated with an arteriosclerosis of the renal arteries. The urine shows a variable number of hyaline casts with an occasional epithelial or coarsely granular cast and only a trace of albumen. The functional capacity is diminished, but we have never yet found any extreme loss of function. It is still uncertain whether this very slowly progressive lesion ever becomes so extensive as to lead to death in uremia. The evidence from the clinical side will have to come from systematic urinary examinations and repeated determinations of the extent of the lesion. Direct and positive evidence of the possibility of such a development would be given if a gradual failure of functional capacity were shown, combined with the development of the typical urinary sediment found in terminal cases of contracted kidney, and this without the appearance at any time of any indication of acute glomerular inflammation or active tubular degeneration.

In cases bordering on or actually in uremia there are a considerable number in which no evidence of active inflammation or degeneration can be found. Instead there are large numbers of casts which vary widely in size, from those with the usual breadth through all stages up to those which are four or five times broader than ordinary casts. I think it is justifiable to regard such broad casts as direct anatomical proof of the dilatation of the tubules which postmortem examination shows in these kidneys. The casts in such cases have a characteristic appearance. Those which might be called hyaline have not the transparency of the ordinary hyaline cast, but seem to be of a denser material, and there are all grades of transition to the typical waxy cast. The granular casts are more granular than usual. Some are composed of a highly refractile material in which what might be the faint outlines of degenerated epithelial cells or leucocytes can be seen, but more often they have an appearance suggesting a loose aggregation of dark particles which appear quite black under the low power, and have not the sharply defined and regular contour which casts usually possess.

The interpretation of these findings is largely dependent on a comparison of the character of the urinary sediment during life with the nature of the lesion as revealed by a microscopical study of the kidney after death. Our postmortem material is as yet small, so that our conclusions can only be provisional. But there is enough to encourage us in the belief that a careful examination of the urinary sediment will often give very direct evidence as to the nature of the lesion in the kidney.

Even though we were always able to determine with accuracy both the nature and the extent of the renal lesion, we should still be far from a real knowledge of Bright's disease; for in Bright's disease more than the kidney is involved, and in some of its forms, prognosis and treatment depend on an evaluation of the condition of the heart, of the vessels and of the effect of the disease on other organs, as well as on an estimate of the state of the kidneys. But just on account of the complexities of these problems it is important, for purposes of analysis, to consider each of the elements separately, and only in the end to combine them in a composite judgment. The renal lesion is one of these elements, often the most important, and this special problem can only be solved when we are able to answer two questions, the question of the nature of the lesion and the question of its extent. I believe that a thorough and systematic examination of the urinary sediment under controlled conditions gives the most direct evidence as to the nature of the lesion, while its extent must be determined by a measurement of the total functional capacity of the kidneys under conditions designed to call forth the greatest possible amount of work of which they are capable.

References

1 Christian, the Oxford Medicine, 1920.
2 Bright, Medical Cases, 1827.
3 Addis & Watanabe, J. Biol. Chem. 1916, xxiv, 203 (v. 24)
Addis & Watanabe, J. Biol. Chem. 1916, xxvii, 249.
Addis & Watanabe, J. Biol. Chem. 1916, xxviii, 251.
Addis & Watanabe, J. Biol. Chem. 1916, xxvii, 267.
Addis & Shevky, Am. J. Physiol. 1917, xliii, 363.
Addis & Watanabe, Arch. Int. Med. 1917, xix, 507.
Addis & Watanabe, J. Biol. Chem. 1917, xxix, 391.
Addis & Watanabe, J. Biol. Chem. 1917, xxix, 399.
Addis, J. Urol. 1917, i, 263.
Addis, Barnett & Shevky, Am. J. Physiol. 1918, xlvi, 1.
Addis, Shevky & Bevier, Am. J. Physiol. 1918, xlvi, 11.
Addis, Barnett & Shevky, Am. J. Physiol. 1918, xlvi, 22.
Addis, Barnett & Shevky, Am. J. Physiol. 1918, xlvi, 39.
Addis, Barnett & Shevky, Am. J. Physiol. 1918, xlvi, 52.
Addis, Foster & Barnett, Am. J. Physiol. 1918, xlvi, 84.
Addis, Shevky & Bevier, Am. J. Physiol. 1918, xlvi, 129.
Watanabe, Oliver & Addis, J. Exper. Med. 1918, xxviii, 359.
Addis & Drury, Proc. Soc. Exper. Biol. and Med. 1919.
Bevier & Shevky, Am. J. Physiol. 1919, l, 191.
Nagayama, Am. J. Physiol. 1920, li, 434.
Nagayama, Am. J. Physiol. 1920, li, 449.
4 Gross, Deut. Arch. Klin. Med. 1920, cxxxiii, 9. (v. 133)

A FALSE RUMOR

This office is amazed to discover that a rumor is prevalent that members of the Indemnity Defense Fund have been assessed $30 a year since the institution of the fund in December, 1916. This is not true. The first assessment on Fund Members will be levied this year. Those who joined it at its inauguration have had the benefit of its protection for five years without assessment of any kind for that period.

Payment of $15 in cash and the execution of a note in the sum of $15 due one year after date entitles any member in good standing to join the fund.

RECENT ADVANCES IN THE DIAGNOSIS AND TREATMENT OF HAY FEVER AND ASTHMA*

By ALBERT H. ROWE, M. S., M. D., Oakland, Calif.

The investigations of the last ten years have cleared the haze away from the asthma and hay fever problems, so that definite relief is now in store for most sufferers with these diseases. No one now can doubt the fact that these conditions are usually manifestations of protein sensitization or bacterial infection, since recent work shows that both bronchial asthma and hay fever may be due to susceptibility to one or several of the proteins in foods, pollens, animal hairs, bacteria, and several other substances like orris root.

Protein sensitization, moreover, has been shown to cause many cases of eczema and urticaria. All such conditions should be investigated with skin tests especially for foods, and also, if indicated for animal hairs and pollens as shown recently in Walker's article entitled "Causation of Eczema, Urticaria and Angino-Neurotic Edema." A recent case of eczema emphasizes the truth of this statement. In this case our skin tests showed marked susceptibility to most vegetables as well as to wheat, and there had been a vegetable diet prescribed, which, of course, had exaggerated the eczema.

These diseases, then, are the marked examples of protein sensitization, and internists today are wondering about the effect on the body of the slight but constant sensitivity to foreign proteins. Many of the obscure diseases, as suggested recently by Cooke, such as migraine, arthritis, chronic dyspepsia, renal and hepatic diseases may be associated with a chronic anaphylactic state. Gay and Southard have described the marked fatty and waxy changes of muscle, the local necrosis of epithelium, and the fibrous thickening of the glomerular capsule which results from acute anaphylaxis. It is, therefore, very probable that continued minimal anaphylactic shocks can work permanent damage. Therefore, for this added reason, the study of our present knowledge of protein sensitization is most important.

GENERAL CONSIDERATIONS

In the study of hay fever and asthma patients, a thorough diagnostic examination is the first essential to correct and successful management. We must be sure that the asthma is not associated with some lung, heart, kidney or other organic disturbance. Focal infections, especially in the sinuses, teeth, tonsils and pelvis must be discovered and cleared up. These cases, moreover, should all be examined, with the greatest care, by a competent nasal specialist and the remotest possibility of sinus infection ruled out. We feel, however, that operative procedures on the nose should not be done with the idea of a cure of hay fever or asthma without a careful diagnostic study by an internist, who can not only rule out the presence of organic disease, but also discover the presence or absence of protein sensitivity. Otherwise much unnecessary and sometimes dangerous nasal surgery will be done as, for instance, in the case of a recent patient, who gave a most marked reaction to orris root, which is found in nearly all face powders, and where the nose had been thoroughly operated on from all angles, without the slightest relief.

To determine the fundamental cause of hay fever or asthma, skin tests with the various proteins of pollens, animal hairs, foods, bacteria, orris root and certain other substances in selected cases such as boxwood dust are absolutely necessary. These tests have been shown to be specific, and the whole procedure in the large part is out of the experimental stage, ready for the physician who wishes to give his asthmatic or hay fever patient as good and scientific treatment as is possible. In our work over 2,400 separate tests have been made on over ninety different patients and reactions have been obtained to nearly all kinds of foods, including fruits and vegetables. The technique of Walker and his suggestions as to the interpretations of the scarification method of skin testing have been followed explicitly since the intradermal method has certain disadvantages such as the danger of anaphylactic shock, the inability to do any large number of tests at any one sitting, and the inconstancy of some of the reactions. The so-called delayed reaction, which shows up twenty-four hours after the test with a tender, reddened area often slightly purulent, has been watched for in all cases. The very positive reactions present a most definite urticarial wheal with amœba like pseudo-podea and a red areola around about. We have obtained the most marked reactions with the pollen, animal hair, shell fish, wheat, and orris root proteins, though occasionally other proteins such as those of carrot and onion give striking results.

The manner in which these proteins produce their symptoms is a matter of the greatest conjecture. Why one person will have hay fever and another will have asthma from pollens, is surely a problem. Undoubtedly the cells of the entire epidermal covering of the body are sensitized to the proteins. Whether the asthma is due to a vagotonia or whether the mucous membrane of the bronchi becomes swollen and congested in the same way that the nasal mucosa does in hay fever is not settled.

Koessler feels that these conditions may be manifestations of a poisoning due to toxic amino acids which the body cells have split off from the proteins of pollens, food, bacteria, or animal hair. Thus, the unknown is ever stretching ahead of us in our medical studies.

HAY FEVER

That certain types of hay fever are caused by pollens was first suggested by Blackley in 1873 in "Experimental Researches on Hay Fever." He was able, to his own satisfaction, to explain the production of such symptoms by animal hair by the probable carrying of grass pollens in the fur of the animals, but his theory broke down when he attempted to explain the action of food in the production of this condition. In 1905, Dunbar proved that hay fever could be produced by the

* Read before the Alameda County Medical Society, Oakland, May, 1921.

inhalation of pollen, and tried to treat patients with pollen injections. Since then, through the work of Noon and Freeman, Clowes, Goodale, Cooke, Koessler, Scheppegrell, Walker, and Selfridge here in California, the present knowledge of the cause and treatment has evolved.

It is now certain that hay fever symptoms are due to susceptibility to proteins not only of pollens but of animal hairs, foods, bacteria, orris root and certain other substances. The patient's history will usually suggest which proteins are the most likely cause. However, though pollens cause most seasonal hay fever, certain of the summer coryzas, we have found are due to animal hairs and especially to bacteria. Again, bacteria or foods cause most of the all-year hay fevers, though it is well known that pollens may be at the basis of certain of these disturbances. Hence, no set rule can be laid down in regard to the character of the proteins which are to be used in testing any definite case. The physician doing this work must be prepared to test with all the proteins to which the patient is exposed.

For our work we have available the proteins of 86 foods, 8 animal hairs, 15 bacteria, 74 pollens, and that of several sachets, perfumes and orris root. The proteins of food, animal hair and bacteria have been purchased through commercial houses and they seem to be very satisfactory. As Selfridge [3] has shown, however, the commercial pollens are useless for our work here in California, since this flora differs absolutely from that of the East, as shown by Professor Hall, and there are apparently many more hay fever-producing grasses and shrubs here than there. Hence, we have collected the pollens of the hay fever-producing grasses, shrubs, weeds and trees of this region of California ourselves, and have them available for diagnosis and treatment.

The recent articles of Walker have crystallized the thought on this subject, and we have conducted our work along lines suggested by him. He classifies the causes of hay fever and asthma in the following diagramatic way:

Causes

Sensitive		Non-Sensitive	
Seasonal	All year round	Seasonal	All year
Pollens	Hair	Bacteria	Bacteria
Foods	Food		
Bacteria	Bacteria		
Animal hair	Pollen		

Much difference of opinion exists at present, concerning the best method of diagnosis and treatment of hay fever due to pollens. Scheppegrell thinks that one representative of each of his so-called biological groups of pollens is sufficient to use for diagnosis and immunizing purposes. Selfridge and probably Goodale, however, feel that there is a marked specificity for the individual pollens of the various species, and the former contends that immunization with each pollen to which the patient is susceptible is necessary for success. The hay fever pollens are probably much more profuse in California than in the East, and our own experience would indicate a marked specificity for each individual one.

For immunizing purposes, Walker and Goodale [4] use strong dilutions finally in getting their good results, while Scheppegrell [5] and certain others recommend small doses. Our work confirms Walker's experience, and doses of strong dilutions are gradually administered, the dosage being controlled by skin tests. It is most gratifying to see the positive skin test to pollen protein gradually disappear with careful treatment. However, such immunity, it should be remembered, must be re-established each year, though it is hoped it may become permanent with successive immunizations. When the patient is sensitive to foods, removal of the food is usually effective. We have not attempted to immunize patients with hypodermic injections of wheat, but have recommended in several instances the gradual feeding of the offending food proteins, beginning with one-half milligram and working the dose gradually up to several grams. In regard to this food idiosyncrasy, we must remember, as Talbot has pointed out, that it often gives way to pollen or animal hair sensitiveness later in life. Horse dander susceptibility has been treated with gradually increasing doses of horse dander protein subcutaneously. Feather protein sensitivity has been taken care of by substituting floss pillows and mattresses for feather ones. Orris root symptoms require the use of rice powder if the patient is not sensitive to it, since nearly all commercial face powders contain orris root. Bacterial types of hay fever require the isolation from the sputum or nasal secretion of the offending organism and the preparation of an autogenous vaccine from it, especially if it is a streptococcus or any other organism than a staphlococcus or diphtheroid, in which latter cases Walker feels autogenous vaccines are not necessary.

To appreciate the results which can be obtained from such therapy, one must consult the most excellent articles of Walker entitled, "Frequent Causes and Treatment of Perennial Hay Fever" and "Sensitization and Treatment of Bronchial Asthmatics with Pollens."

We have made a study of twenty-six cases of hay fever seen in my private work, and in these cases there have been:

13 instances of seasonal pollen sensitiveness;
10 instances of bacterial sensitive and non-sensitive types;
6 instances of susceptibility to pollens, foods, and bacteria;
3 instances of sensitiveness to animal hairs as well as to pollens or bacteria;
9 instances of susceptibility to orris root;
1 instance of sensitiveness to beef protein;
2 instances of sensitiveness to chicken feathers alone.

To illustrate the diagnosis and treatment of seasonal hay fever due to pollens alone, the following case will be summarized:

E. M., a woman, age 30, has had hay fever of the most severe type for eighteen years, always from February to September. Constant running of eyes and nose, sneezing on arising in the morning, and for one-half to one-hour periods during

the day occur. Suffers with terrible dryness of the throat and itching of the nose and eyes. Cannot go out into the country or fields or even into the night air. Feels bloated and swollen at times as well as feverish, and often large wheals come out over body. All symptoms disappear on going to San Francisco or into the high Sierras. The father has had hay fever for forty years and many of his people have catarrh.

Cutaneous tests showed marked reactions to one to five hundred dilutions of the pollens of poa annua, oats, canary grass, wheat, fescue, Kentucky blue grass, barley, rye, brome, velvet, beard grass, timothy, mugwort, oryzopsis, and moderate reactions to white top, sage brush, dock, rag weed and poverty weed.

Immunization given for two months last year, with gradually increasing doses of the dilutions of these pollen proteins, relieved her of her hay fever for the first time during July and August for years. She has gained thirty pounds and feels better than she has for years. She is now able to ride and walk in the country, and can go out at night.

Other cases of this type could be cited. Our experience, in brief, indicates that pollen hay fever can be relieved by correct immunization with pollen dilutions to which the patient is susceptible. It is possible, in our minds, that the pollens of certain flowers such as the daisy, aster and cineraria can cause hay fever, providing enough of the flowers are grown in a given locality. A patient's house was recently found to be surrounded by Shasta daisies to which pollen she gave a tremendous reaction, and even though other grasses were found to be positive, immunization to Shasta daisy as well as the grasses was carried out.

The non-sensitive seasonal bacterial type is illustrated by the following case:

R. B., a man, age 31, has had attacks of running of the nose, itching and congestion in nose, and sneezing lasting about one day. Attacks occur usually in the summer. Sweeping always brings on attacks, and they come with nearly every cold. Asthma may come with a cold for about two days.

Shell fish has always poisoned him. Lips, tongue and throat swell, stomach becomes unsettled, and he vomits and feels very ill after eating even a small amount.

Cutaneous tests with all the foods he eats except for shell fish as well as animal hairs, orris root, and pollens were entirely negative.

He, therefore, is an example of the seasonal non-sensitive bacterial type of hay fever, and will probably respond to the autogenous diphtheroid vaccine which we have prepared for his treatment.

A most interesting example of the sensitive bacterial all-year-round type of hay fever as well as of the marked horse dander hay fever is as follows:

G. G., a woman, age 21, has had sneezing every morning until noon for the last eight years, following a severe attack of bronchitis. Sneezing often is steady and lasts into the afternoon, and may awaken her at night for one-half to one hour. Nose runs terrifically, and nose and roof of mouth itch. Has tightness in her chest, and breathing is never easy. Feels tired and drowsy all the time. She also has had a typical hay fever and wheezing when she has been around horses, for the last three years. She becomes so ill and tired, and eyes and nose itch and run so much that she must go to bed after being around them.

Cutaneous tests were positive to staphlococcus albus and strongly positive to horse dander and horse-hair protein. To all other proteins her tests were negative. Cultures of her abundant nasal secretion showed a pure culture of staphlococcus albus, and three injections of the autogenous vaccine, prepared by my bacteriologist, Miss Margaret Eakin, relieved her completely. For three months she has been free from all symptoms. We are also immunizing her carefully to horse dander proteins, and feel confident that she will be able to be around horses again without trouble.

An example of food sensitiveness accompanying pollen susceptibility, follows:

A woman, age 30, has typical hay fever beginning in April and lasting through July. She is susceptible to several of the spring pollens, and also to many of the green vegetables. We feel that the limitation of these vegetables in her diet is most important. She is being immunized to the pollens to which she reacted.

A most striking example of orris root and non-sensitive bacterial hay fever, follows:

F. S., a woman, age 24, has had attacks of swelling of the nasal mucosa, marked coryza and watering of the eyes, marked swelling across the bridge of the nose and swelling of the eyes, for the last three years, coming every few days. She has been unable to use orris root as a shampoo, and is unable to ride on a street-car or go into a room with women who have used face powder. With severe attacks she gets marked throbbing in nose and over her eyes, and is so miserable that she has to go to bed. Her nose has been operated on several times, with no relief. During the last year her hay fever symptoms have persisted, and during the last few months she has been having asthma.

Cutaneous tests were negative to all proteins except orris root, to which she gave a tremendous reaction.

When she does not come in contact with face powder she is fairly comfortable, though her symptoms have persisted, probably due to a secondary nasal infection. We feel that when she is immunized to the staphlococcus aureus, which Miss Eakin has found in her sputum, she will get complete relief.

These examples of the various proteins which can cause hay fever, show the propriety of the suggestions of Cooke to call this disease "protein rhinitis." Our work confirms the idea of multiple sensitization and specificity of proteins in hay fever, and shows the futility of doing hay fever testing here, with anything except a full supply of California pollens, foods, hairs and bacteria. We feel that this work moreover, can best be carried out by a trained bacteriologist, who can make free and frequent use of bacteriology with the minimal expense to the patient.

ASTHMA

Meltzer probably first suggested, in 1910, that bronchial asthma is due to an anaphylactic state. In 1912, Schloss [6] first demonstrated that specific sensitization to foods existed in man, and that the skin test could be used to determine this susceptibility. His work was extended by other investigators to urticaria and eczema and laid the foundation for the memorial series of studies, which Walker has published during the last four years.

In these twenty-seven or more articles, Walker reports his scientific investigations on his large

series of asthmatics and shows in careful detail the manner of treating nearly every type of case. No one interested in this subject should miss a careful study of all these articles.

His articles in the "Oxford Medicine" summarizes many points which are important to mention here.

Walker states that true bronchial asthma is an anaphylactic phenomenon, resulting from some foreign protein. Asthmatic bronchitis, however, is the result of prolonged respiratory infection and produces dyspnœa, bronchitis, and coughing at night due to the accumulation of a sticky sputum. Often asthmatic bronchitis is superimposed on true bronchial asthma, this occurring early in cases in children due to the susceptibility of their mucous membranes to infection.

Walker, as previously stated, uses the cutaneous skin tests rather than the intradermal one. A positive test for a protein may not mean that that protein is causing the asthma, but it does point out a danger which should be kept in mind. Omission of a food from the diet may desensitize a patient and change a positive test to a negative one. Hence, it is important to be eating the foods for which tests are done and to repeat slightly positive reactions. Bacteria may give a negative test for protein sensitiveness, but may still cause asthma due to their infectious nature alone.

Of six hundred asthmatics, Walker found 48 per cent sensitive to some protein, and 52 per cent non-sensitive. Sixteen per cent of the 600 were sensitive to animal emanations, mostly to horse protein. Twelve per cent were positive to foods, wheat, egg, potato and fish being the most frequent in succession. Ten per cent were positive to bacterial proteins, the staphlococcus aureus, streptococcus hemolysans and hemolyticus, staphlococcus albus, and streptococcus viridans being the order of frequency. Micrococcus tetragenous, diphtheroid, and other bacteria also give positive reactions. Eleven per cent gave positive tests to pollens. Pollen asthmatics often have a secondary bacterial bronchitis.

Walker shows that as the age of onset of asthma increases, the frequency of sensitization decreases and the frequency of non-sensitiveness increases, the latter being universal after the age of fifty. After forty, occupations such as baking, tending horses, or sifting coffee beans are apt to bring on asthma due to the exposure to the specific proteins. Each sex, all ages, and all races are equally susceptible to asthma. The longer the duration of asthma, the more pronounced is the resultant bronchitis and emphysema and the more difficult the relief. Multiple sensitization occurs most frequently in youth and sensitization to one protein is apt to be followed by another later on. Eczema is usual in youth where a food susceptibility is present. Heredity was positive in about 48 per cent of all asthmatics.

In regard to treatment, Walker states that high temperature destroys anaphylactic properties of food so that toasted bread, baked potato or boiled milk may be given to people susceptible to the proteins of these foods. Patients, moreover, may be able to eat small amounts, but not large amounts of certain foods. Eighty per cent of the sensitive cases are relieved by protein therapy, and another 10 per cent are relieved by vaccines. At least two-thirds of the non-sensitive asthmatics are relieved by vaccine therapy, or we must try another organism if the vaccine fails. Operations will not relieve the sensitive types, and surgery should only be done in the non-sensitive types to remove the foci of infection or promote drainage. Change of climate will help the non-sensitive patients, but not the sensitive ones, unless they are susceptible to pollens.

We will conclude our article with the analysis of thirty-eight cases of asthma, which have been referred to me in my private practice. Of these cases there have been:

23 cases of the sensitive and non-sensitive bacterial type.
6 cases of the bacterial and food sensitive type.
2 cases of the bacterial, food and animal hair type.
2 cases of animal hair type alone.
2 cases of the food type alone.
2 cases of the pollen and bacterial type.
2 cases of the pollen type alone.
1 case of the bacterial, food and pollen type.

A brief summary of some of the histories and methods of therapy will be given.

Three cases illustrative of the bacterial type of asthma will be summarized:

M. M., a woman, age 25, has had asthmatic wheezing continually since she was eight years old. Since the age of sixteen, it had been so distressing in the winter that she had to come from her home in Seattle to California. She has never raised any sputum. Severe attacks are frequent. She has been unable to ride horses for some years on account of the exaggeration of her asthma.

Cutaneous tests were negative with the exception of a moderately positive reaction to horse dander. X-rays of sinuses showed a right maxillary sinusitis and an abscess at the root of the first upper right bicuspid. The extraction of this tooth and drainage of the antrum together with several injections of pituitary and adrenalin extracts at the time eradicated the asthma, and she has been free for two years. Her susceptibility to horse dander proteins was not sufficient to give any symptoms unless in close contact with horses.

F. W., a woman, age 35, has had a dry hacking cough associated with a wheezing bronchitis with exaggerated spells of bronchial asthma with acute colds, continually for twenty years.

Cutaneous tests gave a marked reaction to streptococcus hemolyticus and were negative to all other proteins.

X-rays of teeth showed a definite apical infection of four teeth. These were extracted and her infected tonsils were removed also.

Cultures of the tonsils gave a pure culture of streptococcus hemolyticus and the asthma which persisted for two months after the teeth and tonsils were removed, cleared up when careful immunizaton with the vaccine was carried out. She has remained entirely free from her asthma for over one year.

This case shows the necessity of desensitizing the patient to the bacteria which is producing the trouble, especially when a specific skin test is

present, even after the harborers of the bacteria have been removed.

E. B., a woman, age 52, has had asthma following pneumonia nearly continuously for twenty-four years with exaggerated attacks with colds. Raises much sputum. Occasionally sneezing and running of the eyes and nose occurs.

Cutaneous tests were negative except to staphlococcus aureus and orris root. Cultures of the sputum yielded a pure diphtheroid and immunization has given her marked relief for the last eight months.

Two cases of combined food and bacterial sensitiveness will be mentioned:

M. W., a woman, age 40, has had bronchial asthma continuously since childhood. As a child had hives.

Cutaneous tests were positive to wheat proteins and to orris root. Cultures of sputum showed a streptococcus and diphtheroid. Cutting the wheat from her diet and immunizing her with the vaccine is giving her relief.

G. H., a boy, age 6, has had very severe attacks of bronchial asthma since the age of six months, when vegetables were first added to his diet. He has always been wheezy and unable to play or run.

Cutaneous tests were markedly positive to carrot, corn and onion proteins and to staphlococcus aureus. His sputum yielded a pure culture of staphlococcus aureus.

Elimination of carrots, corn and onions from the diet did not relieve his wheezing until immunization to an autogenous staphlococcus vaccine was carried out and since then he has had relief. For the first time in his life he is able to play and run like other boys.

These last two cases illustrate the type which is originally sensitized to food proteins and where asthma becomes chronic because of an added bacterial infection.

One example of asthma due to foods alone is given:

B. W., a boy, age 8, has had many frequent attacks of bronchial asthma for several years.

Cutaneous tests showed marked reactions to carrots, rice and peanuts. Dr. Clifford Sweet reports complete relief since these foods were eliminated, with the exception of a slight attack when he broke over his diet.

An interesting example of susceptibility to foods, pollen and bacteria is cited.

P. T., a boy, age 10, has had severe attacks of asthma every ten or twelve days for the last three years and has never been absolutely free from difficult breathing. He has very little sputum.

Cutaneous tests gave positive results with the pollens of Kentucky blue, poa annua, barley, wheat, agrostis, and timothy grasses. Tests for wheat proteins, as well as wheat glutenin, leucosin, and globulin, corn, barley and beef proteins showed marked so-called delayed reactions. All other reactions were negative.

Immunization to the pollens, together with the elimination of the foods to which he was sensitive, and immunization to an autogenous vaccine, consisting of a streptococcus, gram negative diplococcus and staphlococcus aureus has given definite and gratifying relief. He can now play ball for the first time since asthma began.

In conclusion, certain points should be emphasized to assure correct diagnosis and success in the treatment of cases of hay fever and asthma.

1. A complete stock of proteins of foods, animal hairs, orris root, bacteria, as well as a large number of our California pollens is the first essential for correct diagnosis and treatment.

2. Ready access to a competent bacteriologist who can carefully prepare vaccines as needed for the treatment of these cases, is important.

3. The pollen type of hay fever receives marked relief by proper pollen therapy and this should be given with the local pollens only.

4. The bacterial types of asthma and hay fever receive striking and often rapid relief with autogenous vaccines.

5. Food types of these illnesses must be treated with absolute removal of the foods to which sensitivity exists to get results. Desensitization may then be tried.

6. Surgery is important if foci of infection are present or drainage is imperfect.

7. The writer feels that if care is taken and the patients co-operate, most of these sufferers can receive either partial or complete relief from hay fever and asthma.

Bibliography

1. Walker's articles in "Oxford Medicine" on Asthma and Hay Fever contain references to all his original articles, as well as an excellent bibliography.
2. Cooke, R. A.; New York Medical Journal, vol. 107, 1918, p. 619.
3. Selfridge, G.; California State Medical Journal, vol. 17, 1919, pp. 106 and 139.
4. Goodale, J. L.; Boston Medical and Surgical Journal, vol. 179, 1918, p. 293.
5. Scheppegrell; Public Health Reports, September 24, 1920, p. 2241.
6. Schloss, O. M.; American Journal of Diseases of Children, vol. 3, 1912, p. 341.

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Prescribing Intoxicating Liquors—"The writing of prescriptions for intoxicating liquors for the fee or because the person is a good friend is not only illegal but dishonest, forfeits respect even from the recipient, and each time leaves the doctor one notch lower in self-respect."—(A. W. Abbott, Journal-Lancet, January, 1922.)

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STYLOID PROCESS IN TONSILLECTOMY

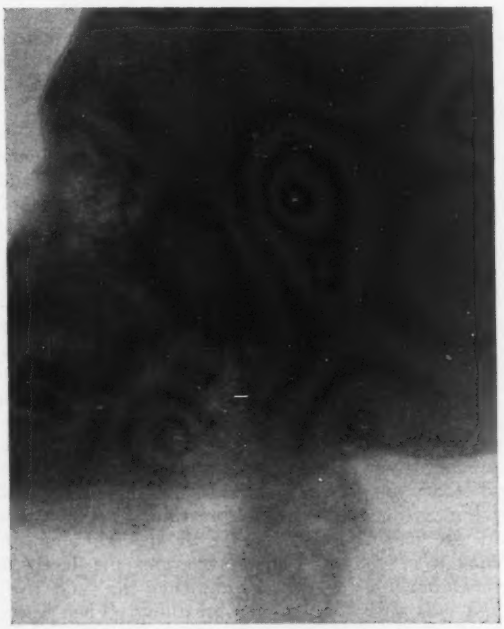
By J. A. BACHER, A. B., M. D., San Francisco

From the Subdivision of Otology, Rhinology and Laryngology of the Division of Surgery of the Stanford School of Medicine.

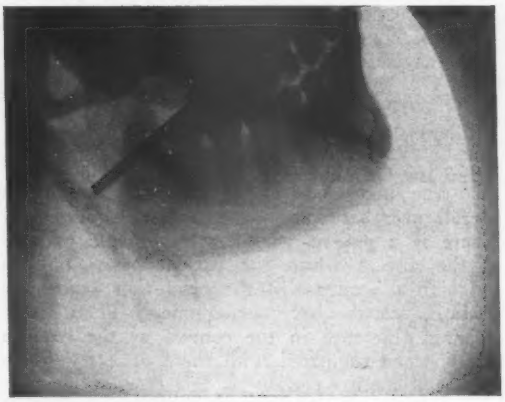
During the past five years two cases of elongated styloid processes, presenting in the tonsillar fossæ, have come under my observation. In neither of the cases was the diagnosis made before tonsillectomy. In the first case inspection of the fossa after uncomplicated tonsillectomy showed a sharp prominence covered with muscular tissue extending from above downwards rather close to the anterior pillar. In the second case a snare wire was placed around the process and an X-ray picture taken with the wire hanging from the process. Convalescence was uncomplicated in both cases.

I have found fourteen cases in the literature. Ten were discovered previous to operation and four on account of difficulty in the operative procedures. The prominence was removed with bone forceps in four cases. The characteristic movements that the styloid process, alone of the possible bones in this position, possesses are first that it moves with rotation of head, and second that it moves with nodding of the head.

In the cases discovered before operation there were exaggerated symptoms of chronic tonsillitis. In these cases part of the process has been removed with bone forceps. Other cases have caused difficulties in instrumentation. These cases deserve publication, as it is not commonly known that the styloid process can be so long.



CASE I—Elongated styloid process.



CASE II—Taken fifteen minutes after uncomplicated tonsillectomy. Wire snare hanging suspended from tip of styloid process in base of tonsillar fossa.

Normal Styloid Process.

WALTER LINDLEY, M. D.

(Born Monrovia, Indiana, January 13, 1852

Died Los Angeles, January 24, 1922)

Dr. Walter Lindley was one of the most widely known and most beloved physicians of the West. He was educated in Minneapolis and received his Doctor of Medicine degree from the Long Island College of Brooklyn, N. Y., and subsequently attended Keen's School of Anatomy, Philadelphia. He had been engaged in practice in California since 1875. During that time he was an outstanding figure in the medical world and became influential in the civic and economic affairs of the State. He had held all of the positions of honor that could be given to any member of his profession in California, and he was also a member and a director of the Los Angeles Chamber of Commerce. A number of banks and trust companies were honored by his membership on their boards of directors, and he was noted for his friendship and assistance to young men in all walks of life during the period when they were striving to get started in their careers.

Dr. Lindley leaves a widow, three daughters and one son, Francis Haynes Lindley, together with a host of warm personal friends who mourn his passing.

GLUCOSE AND ALKALIES IN SURGERY

By ALANSON WEEKS, M. D., and LEROY BRIGGS, M. D., Surgical Department, University of California Medical School, St. Luke's Hospital

The age of empirialistic medicine is practically closed. The present tendency is to find and remove the pathology of the disease instead of rendering symptomatic treatment. So much is this true that some of us stand so straight as to fall over backward, forgetting, at times, that: There is a patient who has the disease as well as the disease which the patient has. This is the natural sequence of the revolution which our medical schools have undergone. There is a striking difference in the courses of the modern school when compared with those of a few years past, and more especially is this true of pharmacology and therapeutics. Today stress is laid upon a few drugs of proved value, and possibly these proofs are too often entirely laboratorical. Fortunately, however, the importance of sanitation and proper nourishment is emphasized. Carbohydrates are our simplest foodstuffs and of these glucose is the simplest form, and its indications and methods of administration are definite. We shall not proceed with the chronological development of the details of the uses of glucose as is usual in such discussions, but shall endeavor to stick to the practical side of the subject. It will be necessary, however, to recall some chemical properties and the physiological activity of glucose to appreciate fully its indications and usefulness.

Glucose is a monosaccharid, crystalloid substance, forms true solution, diffusable through semi-permeable membrane, and, therefore, in solution, obeys all the laws of osmosis.

Physiologically, glucose is the form in which the carbohydrates are absorbed from the intestines after digestion is complete. It is taken up by the blood and transmitted to the liver, then to the tissues, to be utilized or stored (mainly in liver and muscles) in the form of the polysaccharide, glycogen. This store of glycogen is called upon when the katabolism exceeds the anabolism, as in starvation. This is the food of choice or organism. It has been shown repeatedly that the glycogen content of the liver and muscles is decreased during starvation, and also that further starvation results in an increase in the elimination of nitrogen proving a destruction of protein tissues of the body. The glucose is oxidized, forming compounds of lesser number of carbon atoms, which are further oxidized, so that the final metabolic products are carbondioxide and water, which is excreted by lungs, kidneys and skin.

Before proceeding further we wish to state that we are ardent advocates of the alkalinization of patients. All cases get an alkaline water before and sodium bicarbonate after operation.

INDICATIONS AND METHODS OF ADMINISTRATION

Glucose solution by rectum is indicated in all cases of dehydration and those who cannot take fluids or food for three days or more. This means, then, all cases of major operations, and more especially those in which the peritoneal cavity is opened. After any major operation there is a slight increase in the rate of metabolism evidenced by a slight rise in temperature due to increased nerve tension, absorption of toxins, products of antolysis of strangulated tissues, etc. At this time there is an increase in the katabolism and a standstill in the anabolism if the patient is not taking food. This results in a call upon the glycogen reserve first and tissues protein later if the glycogen is not replaced. This gives us a definite indication for carbohydrate food and it is best administered in the form of glucose, which will keep up the supply of glycogen with a minimum amount of dissipation of energy on the part of the patient. Five per cent glucose and 5 per cent sodium bicarbonate solution by rectum is used because this strength solution is practically isotonic with the blood and is readily absorbed.

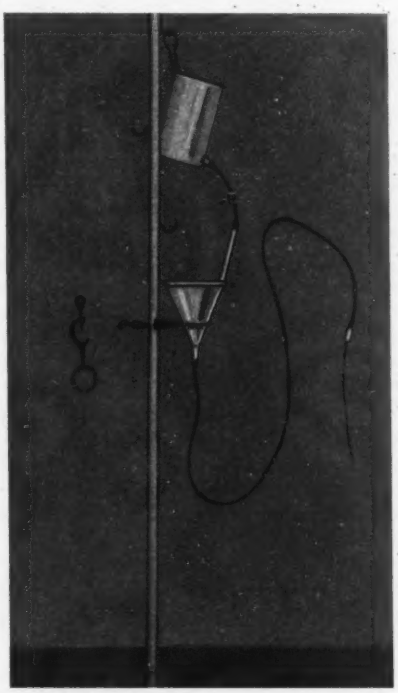
We hear an occasional objection by a physician on the ground that the solution irritates the patient and cannot be continued. This can readily be overcome if the method originated and published some years ago is adhered to. In rare instances it will be found that the patient develops a more or less severe diarrhea, probably due to an alkalosis. This can be overcome by discontinuing the soda in the solution and giving hydrochloric acid by mouth. The method previously published will be emphasized by repetition.

STANDING ORDERS

Before operation the patient's colon is thoroughly washed night and morning to remove all fecal matter. As soon as the patient has returned to bed from operation 16 ounces of the 5 per cent glucose and 5 per cent bicarbonate solution is thrown into the bowel and the patient is left alone for four hours, when the funnel method of giving the above glucose and bicarbonate solution is started. Have the funnel in its holder raised only above the level of the patient's rectum so that the fluid will be seen to rise and fall in neck of the funnel with the patient's breathing. This is the most important part of the method. Use a small catheter to insert into the bowel and pin the sheet over the rubber tubing with a safety pin so that the drag of the five feet of rubber tubing reaching from the catheter to the funnel will not drag the catheter out of the bowel. Allow enough of the above glucose and bicarbonate solution to flow into the funnel from the drip tank until the tube of the funnel is filled. This allows for filling of the bowel and a good view of the solution so that you can see whether it is rising and falling with the patient's breathing. Allow this to go on now for twelve hours' running in enough of the solution to keep up the level in the funnel, seeing that all the time the fluid rises and falls with the patient's breathing. Then begin every four hours to sit down by the bedside and flush the bowel out with warm tap water with

the same funnel and catheter for at least fifteen minutes at a time, raising and lowering the funnel until the bowel is washed free of fecal matter and gas. (It requires a great deal of patience at times and a longer and more frequent washing to have the gas start.) Then hang up the funnel and start the solution again for another four hours. If this is properly done the patient should suffer no inconvenience and there should be no collection of fecal matter and gas in the bowel, and the patient should never complain of gas pains, and at all times the gas has a free way to discharge out of the funnel, especially as the outlet of the catheter cannot be blocked with bowel content if the fluid rises and falls with the patient's breathing. A patient absorbs more fluid this way than by any other method. The catheter need not be disturbed in the rectum for three days, thus lessening the tenderness of these parts, and the nurse should by these means be saved much lifting and worrying of the patient.

In cases of all laparotomies the patient must be in the Fowler position immediately on return to bed from the operating room for at least twenty-four hours. Be sure that the body is on a slant toward the pelvis and not, as is so usual, only from the neck up. This is in order that all fluids



Apparatus to give the Murphy Drip by the Weeks Method.

or possible infection in the abdomen shall be gravitated toward the pelvis where it is the more readily handled by the peritoneum. If there is no intra-abdominal operation or injury the drip can be given to the patient in any comfortable position.

In cases of general peritonitis this method can be kept up for days without giving the patient anything by mouth, but perhaps a moderate amount of water from time to time.

After the patient has begun to pass gas freely through the funnel and plenty of fecal matter has collected in the lower bowel, showing the peristalsis has started and is emptying the small bowel into the large bowel, and the patient has no distress on taking liquids by mouth, the drip can be discontinued. If the patient again complains of gas on the stomach with nausea stop everything by mouth and start the drip again. Continue this until all stomach distress stops, when liquids can again be given by mouth.

If the patient vomits a great deal, try first a tumbler full of water with a teaspoonful of bicarbonate dissolved therein, to be drunk all at once. This will aid in washing out the stomach. If the vomiting continues a glass of ginger ale may be tried. If it still continues, particularly if any dark particles show in the vomitus, notify the doctor at once and make preparations to wash out the stomach.

If the patient complains of pain one-eighth grain of morphine may be given hypodermically and may be repeated three or four times during the first twenty-four hours, or as otherwise ordered.

The illustration pictures the apparatus for the Weeks' Drip. For adults use a seven-inch glass funnel and one-half-inch tubing five feet long with No. 16-18 French catheter. In infants and small children use a three-inch glass funnel and four feet three-eighths-inch rubber tubing with a very small catheter. The catheter is not to be removed from the rectum until the drip is to be discontinued entirely; the long tubing allows for irrigations of the colon by lowering and raising the funnel. If care is used this irrigation can be done while the patient sleeps, without disturbance, and the gas bubbles out of the funnel.

In the course of routine one occasionally meets a case that is urgently in need of fluids immediately. In these cases if the patient has been, for any reason, unable to take and retain sufficient nourishment and fluids by mouth or rectum, a glucose solution intravenously is indicated. For this purpose we give from 500-1000 ccs. of a 5 or 10 per cent solution. In all such cases the rectal drip is continued or started if not in use before. In critical cases of definite starvation, toxemia, diffuse peritonitis, etc., the above procedure is repeated every twenty-four hours as long as needed. Warning should be sounded here in regard to giving large volumes of fluid in the blood stream if the myocardium is weak or if there are pulmonary complications which might offer great resistance to the heart. The solution must be given very clowly, 40 to 60 minutes being taken for the infusion.

There is another type of case which is often overlooked, namely, Hepatic Insufficiency, in which glucose is a specific. This condition, first studied

and described by Bevin and Fovill, is characterized by the following symptoms:

A history of lack of nourishment, icteric tinge to sclera and skin, dry tongue, acetone breath, faces apathetica, restlessness, in fact the patient often cries out, though in a semi-comatose state in the last stages. Following death in such cases the liver and muscles are practically glycogen free, and experimentally this entity has been produced and cured by the use of carbohydrates. In these cases 20 to 25 per cent solution of glucose is given continuously in the vein, care being taken to keep within the tolerance of .8 gram per kilo per hour, usually about 60 grams per hour in the average adult. By this method one can furnish as much as 5000 calories in twenty-four hours without effort on the part of the patient. To see these cases improve and their appetite develop is most gratifying. It is important to keep the temperature of the solution between 102 and 108° F.

In baby surgery and especially in dehydrated and starved cases of Congenital Pyloric Stenosis we use a 3 per cent glucose solution in drachm quantities by mouth, beginning as soon as the patient regains consciousness from the anesthesia. In critical cases we also use the same strength solution hypodermically in both axilla and groin. It is slightly irritating, but with care in the technique there is no abscess formation. Weeks' Drip is given continuously in these cases, 3 per cent soda and 3 per cent glucose, care being exercised in selecting a small funnel, small tubing and a very small catheter.

In cases of suppression of urine following nephrectomy, trauma, eclampsia, etc., the results are often just short of miraculous. Here one must use a concentrated solution of from 25 to 50 per cent and give from 300 to 600 ccs. to the average adult. The rational of this treatment is found in the fact that glucose is a strong and efficient diuretic. Normally there is from .08 to .18 per cent of glucose in the blood, and if this percentage is increased there is rapid and marked diureses, with the urine containing the usual constituents plus some sugar. Some of these cases of suppression with uremic symptoms, with anuria from 3 to 5 days, will, after a single injection, secrete 1500 ccs. or more of urine within the first twenty-four hours and rapidly go on to recovery. The hypertonic solution increases the concentration of sugar in the blood and this stimulates the kidneys to function. By osmosis the fluid is attracted from the tissues into the blood stream and thus accumulated toxins are eliminated. If the patient is dehydrated it is well to give 1000 to 1500 ccs. of hypotonic sodium chloride solution by hypodermoclysis about one hour previous to the administration of the glucose solution intravenously. Attention to the modus operandi of the efficiency of this measure will make it plain that conservatism here will not produce the results. A solution of at least 25 per cent must be used and give from 300 to 600 ccs. depending upon the strength of the patient's heart for a guide in each case.

"REACTIONS"

We seldom see a "reaction" from the intravenous use of glucose solution, but great care is exercised in the preparation of solutions and in the temperature at which they are given. We use Merck's Anhydrous Dextrose and make a 50 per cent stock solution in doubly distilled water. From this stock solution the different strength solutions are made by dilution with fresh doubly distilled water and sterilized in the Autoclave at 120° C. for twenty minutes. In boiling a solution of glucose there is a slight ionization which renders the solution faintly acid, but this has not caused alarm. However, at the suggestion of Dr. Langley Porter, we now add Fisher's Solution in proportion of 1 to 10 to overcome this possible objection. The solutions, of course, must be sterilized separately and mixed after cooling, otherwise caramel is formed. This has not been introduced in our procedure for sufficient number of cases to make a statement as to its value, but is, we believe, a very rational addition. Too much stress cannot be laid upon the importance of giving the solution at proper temperature. We always use a tubal thermometer placed in the tube about eighteen inches from the needle in the vein and the temperature is kept between 102 to 108° F. We discovered that at some of our best regulated hospitals the intravenous administration of solutions was practiced without the use of a thermometer, and the solutions under such circumstances were given too cool for fear of giving them too hot. We also use old rubber tubing, since some writers believe reactions are often due to new tubing.

We wish to emphasize the importance of following the details as outlined above if results are to be expected. It is altogether too frequent that useful methods in the treatment of disease are abused because of carelessness or indifference to the following of necessary details.

We are not unmindful of the work of Henderson and Haggard, but we believe that until we have been able definitely to work out clinically the blood chemistry as related to its acid or alkali demands more patients will be benefited than are overalkalinized.

CONCLUSIONS

Glucose and the alkalies are valuable adjuncts to the surgeon's armamentarium. Three things are vitally essential if the patients are to be tided over the period of lowered resistance:

1. Proper amount of food for the cells in usable form.
2. Proper amount of water, and
3. Proper chemical medium for the tissue cells.

If the above methods are closely adhered to there will be less frequent administration of the futile "shots" of strychnin, camphor, etc., for cardiac failure.

EDITORIALS

REGARDING GROUP PRACTICE AND PAY CLINICS

Any physician who is entitled by education and licensed by law to practice medicine as an individual, surely, by all the rules of any honest game, is entitled to join forces with other physicians for the same purpose.

This joining of forces may be by partnership, incorporation or association of any other character agreeable to the persons concerned. Furthermore, no one may reasonably object to the use of "group," "clinic," "pay clinic," "community clinic," "A, B and C clinic," "diagnostic clinic," "industrial clinic," "university clinic," "Mayo clinic" or any other decent composite name for the associated service provided that such organizations are conducted by ethical physicians. There is nothing new about this method of procedure. It is almost as old as medicine itself, and has been for a long time quite the general custom in many countries.

Whenever governments, non-medical associations, universities or other "lay-manager" methods of organization, administration and practice enters the field of prevention and cure of disease, as they are doing to an alarming extent, the problem becomes a new and more difficult one with very far-reaching consequences to the public and to the medical profession. Reduced to its fundamentals, the real problem is whether the practice of medicine, including the prevention and treatment of disease and the control of its essential agencies, shall be constituted a "business" run by "business men" for "business results," or whether medicine shall continue to be a profession—a great humanitarian profession, conducted by men who are specially educated for their work; who are endowed with altruism, love of service, and who shall be allowed, as individuals or "groups," to serve suffering humanity as education, established ethics and the high ideals of our profession dictate.

The superficial advantages in this contest is with those striving, knowingly or unrealizingly, to make medicine a business. This for very obvious reasons; two of which will be noted here. This element, whether a government, a university, a "welfare organization" or a more limited body of "business men" under any other guise, can and does capitalize the desire of the public in their laudable desire for less expensive medicine.

"Business medicine" operated by "business men" *using business ethics* can reduce the cost of medicine in dollars and cents. It will take the public a long time to realize that what they are buying is "business medicine," which at its best is only an imitation of medicine as the real physician understands it, or that the public actually wishes.

Another temporary financial advantage in favor of "business medicine" operated by lay administrators using hired doctors for giving service is that the business ethics they recognize permits publicity and practices not available to physicians. The most important and financially successful of such organizations have been and are using publicity to the limit. Basically, their methods resemble those of the "pink pills," "nauseated iron," "adjustor" and similar classes of quacks, but they go much further. In the advertising of both the quack and the "business group" there is the reference to the "celebrated specialist," who is put forward as a miracle worker. Most of the out-and-out quacks must pay for their publicity in promoting their specialist, while the astute publicity of a "business group" or "pay clinic" gains access to the reading columns of both scientific and public press to promote their "specialist."

Both offer the services of their group of specialists to aid their presumably incompetent colleagues make a diagnosis. In one case, the specialist may be the "celebrated," bewhiskered "professors A & B" of the "peruna" staff; in the other, it may be the professors of a medical school representing a "pay clinic" or a business cut-rate "group."

The greatest drawing card that one large element of the "business medicine" crowd has is the utilization of socialistic philosophy to their own ends. This is serious and dangerous, for it is largely upon the basis of such philosophy that they claim to be able to furnish cheaper medicine to the "man of moderate income." They know full well the extent to which socialism has invaded the public mind, and they capitalize this to their own interests and they are making headway largely because the reading columns of so many publications are open to them; and they have secured to their ranks some men of reputation. Of course, most of them deny that they are socialists and that their real motive is the socialization of medicine.

If the thinking physician has any doubt of the facts, let him review his Carl Marx, read the official statements of Lenine or any other of the group of theorizers and practitioners of socialism. Then let him compare his findings with the philosophy of such articles as one recently published in "Nation's Health," by an ex-president of the A. M. A.; an article in a recent number of the Journal of the A. M. A. by a physician who holds a high place in the confidence of many physicians; and particularly let him study and make comparison with the arguments that have brought about the unfortunate situation at one university, and which is being flirted with by others.

The road being traveled by "business medicine," "state medicine," "political medicine," "socialized medicine," etc., is very well blazed. We cannot see the end, but we can see far enough ahead to sympathize with the miserable situation of our colleagues in Germany, England and many other countries that are laps ahead of us in socialism.

There is another road of medical progress, which I need not take time to describe. The

engineers pointing the way to further advances are taking their bearings from the star that always has been the guide to all builders and navigators.

"Group medicine," when conducted by an association of educated ethical physicians along the same lines of altruism, love of service, ethics, and with hearts atune to the sacredness of their calling that has ever characterized the true physician, is altogether desirable. It should be encouraged, and those who know should point out with clarity the essentials to success as well as the dangers that have destroyed so many groups in the earlier stages of their development.

By tempering somewhat their altruism and idealism with a modicum of economics, the real physician, the medical group and the profession, as a whole through their medical schools and organizations, can reduce the cost of good medicine to the public. This must be done, and it can and should be done without decreasing the individual income of physicians and without jeopardizing that essential personal and confidential relationship between the physician and his patient.

The cupidity, politics, ignorance or selfishness that characterize all forms of medicine not practiced and controlled by educated, idealistic, service-loving physicians fail in the most essential requirements of that humanitarian profession.

By skillful organization, practices and publicity; and by changing their coats frequently and multiplying their names and objects constantly, they can continue to do even more harm than at present.

The factors essential to success in group practice, mentioned above, will be discussed in another article to appear shortly.

MEDICAL BOOKS

This note is a suggestion to physicians that they give more serious study to the question of medical and near-medical books. So-called new books and new editions are increasing at a rapid rate. Some of them are worth while, but more of them are not. Physicians are spending money for many books that would serve themselves, their families and the public better if invested in a good life insurance policy.

There was a time when text books on medical subjects were authoritative, in that they represented the consensus of medical opinion and mature judgment arrived at after the early promises of experimental data or personal opinion had been widely studied. Today, too many books represent only impressions or opinions of individuals based upon insufficient data or experience.

Some of this so-called textbook literature would not be accepted by a good medical journal. Most good medical journals enjoy the advice of an experienced editorial board which insures a reasonable censorship over what they publish.

The commercialism and selling propaganda upon which the book publishing business is built is not conducive to conservatism in expression or in volume of output. Complimentary copies of some of the books to medical journals ought not be considered, as often as they are, as adequate remuneration for publishing a laudatory review, which often is already prepared by some enterprising publishers and furnished with the complimentary copy.

By action of the Council of the State Society, the CALIFORNIA STATE JOURNAL OF MEDICINE will use exactly the same care in its advertising and reading notices about books that it does regarding any other matter. The JOURNAL undertakes, through a competent committee, to inform any member of the Society as to the value of any book dealing with a medical subject. Neither the reading nor the advertising columns of the JOURNAL are open to any but worthwhile medical publications.

NON-CANCELLABLE INCOME INSURANCE POLICIES

Something of the efficiency of the vast majority of physicians is destroyed by an almost universal worry regarding the future financial welfare of themselves and those dependent upon them. Many physicians do not realize or fully appreciate the fact that insurance companies now write a very attractive *non-cancellable* income insurance policy, which constitutes one of the finest investments that any physician can make. For a quite reasonable premium an income may be assured for any amount up to $500 or even $1000 a month, and this insurance continues throughout life in case you break down and are unable to continue your work. In effect, these policies are guaranteed pensions for as long as one lives.

Physicians realize that they are engaged in an extra-hazardous vocation and, being educated men and women, they appreciate to an unusual degree the financial bugaboo of the future. Anyone interested in this form of insurance will find the advertisement of one reliable company in this Journal, and if they wish any further information they can call at the office of the State Secretary and it will be furnished.

The physician who carries a substantial *non-cancellable* income insurance policy and a straight life policy of sufficient size absolutely insures adequate income for himself and family during that part of his life when earnings are impossible and he certainly and positively provides for those dependent upon him after he has gone.

A FALSE RUMOR

This office is amazed to discover that a rumor is prevalent that members of the Indemnity Defense Fund have been assessed $30 a year since the institution of the fund in December, 1916. This is not true. The first assessment on Fund Members will be levied this year. Those who joined it at its inauguration have had the benefit of its protection for five years without assessment of any kind for that period.

Payment of $15 in cash and the execution of a note in the sum of $15 due one year after date entitles any member in good standing to join the fund.

YOSEMITE'S CLIMATE

Although Yosemite was discovered by a member of the medical profession, there are few medical men that know the varied charms of this incomparable valley. It will be of keen interest to those professional men in whose hands lies the health of the State and who will visit Yosemite next May at the annual convention of the Medical Society of the State of California, to find Yosemite's climate, at an altitude of approximately 4000 feet, as distinctive of California as the climate of the coast. Abundant statistics about it may be given, but the best idea of it will be conveyed by an incident of the present season, wherein the human element is more evident than in plain figures.

Two representative residents of Cleveland, Ohio, came to California eager to see the Yosemite, which they had seen pictured in their school histories and geographies, but they were fearful that the trip meant a return to Ohio, insofar as weather was concerned. And they had come to California to bask in the sunshine. Nevertheless, the lure of El Capitan and Half Dome was too strong to be resisted; so they bought their tickets and started to the park, intending to poke their noses inside the "Gates of Yosemite," take one chilly look around and then scoot back to warmer climes.

The beautiful ride from El Portal to Yosemite Valley thrilled them as it thrills everybody—and they were not cold. After luncheon they went outdoors and discovered other guests preparing to ride horseback or to go sightseeing or to walk, while some sat on the veranda in the sun, knitting or reading or just resting. And still they were not cold. It seemed curious, but they forebore to ask questions and began to consider extending their stay.

Next day the sun was as warm as ever, there were other interesting things to do, they were completely comfortable. When finally they departed, the two Clevelanders had spent fifteen days in the valley and left an unsolicited testimonial telling of their pleasure in the visit. As the patent medicine advertisements say, "Original can be seen on request." But perhaps that isn't a recommendation in the eyes of professional men! Anyway——

"We never knew a mountain winter like this," the visitors confessed to someone, and therein lies the best description of "Yosemite, A Winter Resort," that could be penned by anybody. It is different. It is in California.

Is there snow? Yes, plenty of it—sometimes more. The ground was covered with three feet of fluffy, dry powder when the Clevelanders were in the valley. There was more than three feet late in January when the thermometer in the sunshine on the Sentinel Hotel veranda registered 85 degrees. It isn't a trick thermometer either. Government records show an average maximum temperature for the winter months of 54 degrees, and that is not in the sunshine. Night temperatures fall much lower, just as anywhere else in the West; but in the daylight hours, the time when everybody is out exercising and laying up strength and quieting jangled nerves, the temperatures are balmy and delightful, even for the aged and infirm.

The reason for this unusual climate is not strange or remarkable. If it were not for the fact that the unthinking public associates mountains with cold weather in winter, regardless of whether the mountains are in Switzerland or California, there would not be so much misunderstanding to overcome in attempting to introduce Yosemite at this season.

Speaking literally, not figuratively, Yosemite Valley is a hole in the ground. It is one of the most unique holes the world has ever known, with walls of stupendous height, in some places higher than the valley is broad. Wind virtually is unknown in the valley. The sun beats down all day long, until this hole in the ground becomes a veritable natural sun parlor. And here is something that usually makes everybody laugh, but scientific men say it is true, just the same. The sun is warmer, so to speak, in Yosemite than it is elsewhere, because the glacier-polished granite of the cliffs reflects the rays into the valley until the temperature is far higher than it would be without them.

Finally, the air of Yosemite is pure and dry and rare. There is none of that chilly dampness which takes the joy out of life.

A writer described a visit to Yosemite during the cold wave which made the coast shiver and long for furnace heat. He made the statement that a temperature in Yosemite 20 degrees below that in the San Joaquin Valley offered no discomfort, while the people in the "warmer" sections of the State were talking about nothing but the cold weather. His experience and statement were duplicated many times. At a snow carnival early in February, spectators stood on the crusty top of a yard of packed snow watching the races, and complained that they were too warm wearing the topcoats to which they were accustomed in the cities.

To say more about the climate would be mere repetition with only a change of details. It should be added here, however, that any winter climate demands good food and a good place to sleep after the exertions of the day. Visitors have no cause to complain on either score.

Yosemite is open and accessible by way of Merced and El Portal every day in the year.

CAMP CURRY'S ATTRACTIONS

Spring—and in Yosemite! Do you remember how the crimson maple buds began to unfold, back East in the spring, after the snow was gone? And when the first violets emerged from the green of their leaves, and the moist brown pine needle carpet of the woods? Do you know the "feel" of the air, when the sun has driven winter away and life begins to creep upward with the green sap? Take a week and learn what it can mean, or summon it back from the limbo of your memory. Breathe air that has the tang of mountain nights and days.

The Yosemite Valley was still a good deal of a wilderness when Camp Curry's site was chosen, over twenty years ago. Yosemite Village, to be sure, was very much the same collection of frame structures that it is now, many of them dating back to the seventies or eighties. But with all the valley to choose from, this spot in the heart of Yosemite, set about with pines and firs and cedars of noble growth, between the river in one of its green and tranquil moods and the sheer granite wall of Glacier Point, took the eyes and hearts of the beholders.

Have you ever lived the free and easy out-of-door life that Camp Curry offers you? A life that puts ostentation into the discard and becomes simple and healthful and care-free? Yet there is comfort everywhere—in the bungalows, fitting harmoniously into the forest background; in the tents set in clusters among the trees, hedged about by dogwood and azalea and wild lilac in never-ending succession of flowering loveliness; in the central buildings, with their boulder-set fireplaces.

The bungalows afford living quarters unexcelled on the floor of the valley. There are wide porches from which to watch the shifting beauties of sun and shadow among the trees and along the cliffs, rooms whose walls are half windows, comfortable beds, and the most modern of sanitary appointments. The bungalows and some of the tents are equipped with electric heaters, and there is electric lighting throughout the camp.

Camp Curry's tents offer the accommodations of the usual hotel room without bath attached. Twin or double beds, a board floor with grass rug, washstand and dresser of adequate size, are the princi-

pal furniture. As in the bungalows there is electric lighting, and the beds are a point of pride with Camp Curry for comfort.

The central plant consists of an auditorium and dance hall with an excellent floor of hard maple, club rooms with bowling and pool, a main office and writing room, postoffice, telegraph, a delightful sunny studio with a splendid collection of photographs, in part the work of George Fiske, a pioneer photographer who lived in Yosemite for forty years and caught its reflections as no other has done, and in part the work of Camp Curry's own photographers. The dining room is comfortably warmed by steam heat and has a capacity of 800. The laundry is an attractive building, in the same unit with bathhouse and a swimming pool where Duke Kahanamoku, George Freith and other champions have met. The storage garage and a storehouse, which will make possible greater efficiency and better service for Camp Curry's guests, are the most recent additions to the main plant.

So much for physical comfort and convenience. But Camp Curry is more than a hotel or camp; it is an institution, a California institution that has taught scores of thousands the joys of outdoor life, and that comfort and camping can go hand in hand. The one great factor to this end has been the spirit of hospitality prevalent from the beginning, under the personal management of its owners. You will find here people who are thoroughly familiar with what the valley has to offer and eager to make your outing one that will linger long in your mind. Courteous and intelligent service ungrudgingly given by young college people is an important item.

The campfire is the symbol of this intimate and cordial welcome. Beside it the informal program is given nightly, brought to a close that is always beautiful and impressive by the firefall from Glacier Point. The dance follows for those who will; for others, the circle narrows around the campfire in friendly talk, or there may be a moving picture from Camp Curry's fine collection, with hints of what to see and how to see it, and glimpses of beauties that lie beyond this gateway to the Sierras.

This is the year of years for Yosemite. All winter long the snows have been piling up in great masses, drifting under the trees, swooping down the canyon sides in avalanches, covering high mountain peaks and frozen blue lakes—for you! There will be moonlight on the swirling mists of waters, and that rare thing upon the earth, the lunar rainbow, circling the Yosemite Falls. The sun will pierce with brilliant light the rockets of Nevada and play a merry game of kaleidoscopic colors in the wind-blown spray below Vernal; and throughout the course of the valley and on down the rocky canyon the Merced will beat and snap and foam about the debris of centuries.

THE ST. LOUIS MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The May meeting of the American Medical Association at St. Louis promises well toward being the largest in attendance of any of the Association's sessions. Since the publication of the hotels in the Journal of the Association in December, inquiries and reservations are being made daily. The hotels and the Conventions Bureau are aiding the Committee in a most satisfactory and helpful way to see that the Fellows are comfortably housed and accommodated. The A. M. A. meetings tax all cities entertaining them to the limit of hotel capacity. Whenever possible a good Fellow should double up so that no one is left without comfortable lodging.

Reservations should be made by communicating direct with the hotels. If satisfactory arrangements cannot be made in this way, write to Dr. Louis H. Behrens, Chairman Committee on Hotels, 3525 Pine Street, St. Louis, Mo.

ST. LOUIS' LEADING HOTELS (ALL EUROPEAN PLAN), THEIR LOCATION AND RATES

Hotel, with Number of Rooms	Street Address	Without Bath		With Bath	
		Single	Double	Single	Double
American, 275	7th and Market Sts.	.....	.....	$2.50-3.00	$4.00- 6.00
Diseases of Children					
American Annex, 225	6th and Market Sts.	.....	.....	2.00-3.00	3.00- 6.00
Pathology and Physiology					
Pharmacology and Therapeutics					
Beers, 114	Grand and Olive Sts.	$1.50	$2.50	2.00-2.50	3.00- 3.50
Brevort, 50	4th and Pine Sts.	.....	.....	2.00	3.00
Cabanne, 43	5545 Cabanne St.	.....	.....	12.00-37.50*	
Claridge, 350	18th and Locust Sts.	.....	.....	2.50-4.00	4.00-10.00
Obstetrics, Gynecology and Abdominal Surgery					
Hamilton, 160	Hamilton and Maple Sts.	.....	.....	2.00-2.50	3.50- 4.00
Jefferson, 400	12th and Locust Sts.	2.50-3.00	4.00	3.00-8.00	6.00-10.00
Surgery, General and Abdominal Orthopedic Surgery					
Laclede Hotel, 265	6th and Chestnut Sts.	1.50-2.00	2.50-3.00	2.50-3.00	3.50- 4.00
Majestic, 200	11th and Pine Sts.	.....	.....	2.50-3.00	3.50- 4.00
Dermatology and Syphilology					
Nervous and Mental Diseases					
Marion Roe, 200	Broadway and Pine Sts.	.....	.....	1.50-2.00	3.00- 4.00
Marquette, 400	18th and Washington Sts.	2.00-2.50	3.00-3.50	3.00-3.50	4.00- 6.00
Laryngology, Otology and Rhinology					
Maryland, 240	9th and Pine Sts.	2.00	3.00	2.00-3.50	3.00- 5.00
Gastro-Enterology and Proctology					
Urology					
Planters, 400	4th and Pine Sts.	2.00-2.50	3.00-3.50	2.50-5.00	4.00- 8.00
Ophthalmology					
Plaza, 200	3300 Olive St.	.....	.....	2.00-2.50	3.50- 5.00
Roselle, 100	4137 Lindell Blvd.	.....	.....	1.50-2.50	2.50- 3.50
St. Francis, 120	6th and Chestnut Sts.	1.50-2.00	2.50-3.00	3.00-4.00	4.00- 5.00
Statler, 650	9th and Washington Sts.	.....	.....	3.00-7.00	5.50- 9.50
Practice of Medicine					
Stratford, 100	8th and Pine Sts.	1.50	2.50	2.50	3.50
Terminal, 100	Union Station	1.50-2.00	3.00	3.00-3.50	5.00
Warwick, 200	15th and Locus Sts.	.....	.....	2.00-4.00	4.00- 6.00
Stomatology					
Preventive Medicine and Public Health					
Westgate, 125	Kingshighway and Delmar Sts.	2.00	2.50	3.00	3.50

* Weekly rates only.

COUNTY SOCIETIES

Alameda County Medical Association (reported by C. L. McVey, secretary)—A meeting was held on the 16th of January at the Public Health Center. Clarence DePuy, M. D., was in charge of the meeting, introducing W. A. Wood, who read a paper upon "Abnormal Conditions Found in the New-Born." E. Spense DePuy demonstrated X-ray plates of a tuberculous kidney. E. N. Ewer's paper was "Radium Treatment of Uterine Fibroids." These papers were discussed by Sargent, Adams and Jelte.

Miss Florence Atkinson, secretary of the California Association of Physiotherapists, spoke upon the work which the trained physiotherapists are attempting in the treatment of cases upon the prescription and under the supervision of physicians.

George W. Crile of Cleveland, Ohio, was the speaker at the annual banquet of the society, at the Hotel Oakland on February 15.

At the January meeting of the Merritt Hospital Staff Council, A. M. Smith reviewed the literature of arthritis deformans. The frequent association of achylia gastrica with this type of arthritis was noted. C. A. Dukes presented a new type of apparatus for the fixation of certain types of compound fractures. Officers elected for the year 1922 were: President, George Rothganger; vice-president, A. M. Smith; secretary, Robert Glenn.

Butte County Society (reported by J. O. Chiapella, secretary)—At the annual meeting of the society held in January, the following officers were elected for the ensuing year: President, Joseph P. Schell; vice-president, Thomas B. Reardon; secretary-treasurer, J. O. Chiapella; censors, P. L. Hamilton, J. P. Schell, W. E. Poole; program committee, Schell and Chiapella.

Contra Costa County Medical Society (reported by L. St. John Hely, M. D., Secretary)—The January meeting was held in the offices of Drs. Cunningham and Carpenter at Richmond. Routine matters were attended to at the meeting, and E. R. Guinan, M. D., 1002 Macdonald avenue, Richmond, was elected to membership.

Fresno County Medical Society (reported by Thomas F. Madden, secretary)—The February meeting was held at the commercial club on February 7, 1922. Those present were: President G. W. Walker, Madden, Kjaerbye, Schiro, Sheldon, Tupper, Anderson, Cross, Weise, Staniford, Broemser, Barrett, Tillman, Trowbridge, Sciaroni, McConnell, Willson, Couey, Miller, McPheeters, Stein, Aller and Montgomery.

Paul Campichi of San Francisco presented the subject of "Goiter, Classification and Treatment." Tupper, Cross and Anderson took part in the discussion.

Marin County Medical Society (reported by Chester A. DeLancey, M. D., secretary)—The annual meeting and banquet was held at Pastori's on January 21, and the following officers were elected and installed for the coming year: President, J. H. Kuser, M. D.; vice-president, L. L. Stanley, M. D.; secretary, Chester A. DeLancey, M. D.; delegate to State Meeting, A. H. Mays, M. D.; alternates, H. O. Howitt, M. D., and H. O. Hund, M. D.; trustees, Doctors Kuser, Howitt and Hund.

The evening was spent in discussing the "Political Situation as it Affects the Medical Profession and Marin County in Particular."

W. F. Jones, M. D., member of our society, is a candidate for the Assembly for Marin County.

Mendocino County Medical Society (reported by Paul J. Bowman, secretary)—The annual meeting of the society was held at Fort Bragg on the 8th of February. The following officers were elected: President, Lew K. Van Allen; vice-president, F. McLean Campbell; secretary-treasurer, Paul J. Bowman.

Hans Lisser, M. D., of San Francisco, discussed the subject of toxic and non-toxic goitre.

Merced County Medical Society (reported by Brett Davis, M. D., secretary)—The February meeting was held on the 2nd in the offices of the secretary. A. C. Reed of the extension service of the State Society was present and presented the subject of "Heart Disease in Every Day Practice."

The directors of the Mercy Hospital Association of Merced have secured a site and the payments for stock subscribed are about half completed. The directors expect to select an architect shortly and prepare to build the hospital in the spring.

San Bernardino County Medical Society (reported by E. J. Eytinge, M. D., secretary)—The February meeting was held Tuesday, February 7, with thirty members and ten visitors present and forty members absent.

"The Clinical Significance of the Basal Metabolic Rate Determination" was presented by Nelson W. Janney, M. D., of Los Angeles. The entire evening was spent in the discussion of endocrine and metabolic diseases, led by Dr. Janney.

Floyd Wm. Gardner of Loma Linda was elected to membership.

Sacramento County Society (reported by Dr. G. J. Hall, secretary)—The annual meeting of the Sacramento Society for Medical Improvement was held on Tuesday, December 20, and a special meeting of the Board of Directors was held on January 4. An amendment to the constitution and by-laws was passed and made effective.

The following officers were elected for the coming year: President, Dr. G. P. Dillon; Dr. B. F. Howard, vice-president, and Dr. G. J. Hall was re-elected secretary. The following directors were elected: Dr. Schoff, Howard, Dillon, Foster, Pope and Henderson. Delegates to the State society meeting: E. C. Turner and E. T. Sullivan Jr.; Dr. S. E. Simmons was re-elected a member of the Executive Committee.

The annual dues of the society were increased from $12 a year to $15, in order to pay the expenses of the secretary to all State medical meetings.

San Diego County Medical Society (reported by Robert Pollock, M. D.)—The San Diego County Medical Society has again outgrown its quarters and has accepted the invitation of Mr. C. S. Holzwasser to meet in the auditorium on the eighth floor of his new store building, at Fifth street and Broadway. Such meetings as are not of a clinical nature will hereafter be held at this place. Clinical programs will continue to be furnished at St. Joseph's and the County General Hospital.

A joint meeting of the Medical Society and the Medical Staff of St. Joseph's Hospital was held at the hospital auditorium Tuesday evening, January 24. P. M. Carrington gave an interesting résumé of the work of the League for the Conservation of Public Health and urged the support of the profession. Interesting reports of cases of "Meningeal Irritation in Influenza and Simulating Meningitis" were given by C. L. Stealy. A paper on the "Diagnostic Limits of the X-ray" was read by W. O. Weiskotten and discussed by Dr. Churchill.

Bobbitt, of the navy, reported a case of multiple tumors of the cerebellum, which was discussed at some length by Little, Hummel, Thompson, Oatman and Burger.

Dr. O. G. Wicherski has just organized the med-

ical staff of the San Diego County General Hospital for 1922. Three principal groups of service are recognized—General Medicine, Surgery and Laboratories. Each is organized with a chief of clinics and section officers.

San Francisco County Medical Society Meeting of January 10 (reported by L. H. Briggs, M. D., Secretary)—The entire meeting with about 150 members present was devoted to a discussion of the various phases of the diphtheria problem. Charles Fleischner spoke extemporaneously on the importance of the subject from the standpoints of contagiousness, treatment, and of epidemiology.

Wm. C. Hassler, M. D., presented a paper on the work of the Municipal Department of Health in the control of diphtheria. Hassler's conclusions are:

"1. Don't wait for a laboratory diagnosis when the case is clinically one of diphtheria. The laboratory test may be negative because of no growth and except in doubtful cases, is only confirmative if possible.

"2. Administer a large dose at once, of antitoxin preferably into the vein, next into the muscle, but never just under the skin.

"Frequently physicians inquire what should be the dose of antitoxin. This has been settled fairly well by Schick, who advises the administration of 100 units for approximately each 2 1/5 pounds of body weight and 500 units for the same weight in the very severe and late cases. Administer the antitoxin preferably into the vein, next into the muscle, but never just under the skin.

"3. As a procedure of safety, before giving antitoxin, question as to previous doses at any prior illness or as to being afflicted with asthma, urticaria, and always examine the heart. In cases that give a history of urticaria the patient should be desensitized by giving first a half cc. of antitoxin under the skin, and one hour thereafter half cc. of antitoxin into the muscle, and then repeat this process, doubling the dose every hour until the required amount of antitoxin is administered necessary for the status of the case. In cases where heart complications exist, intravenous medication is contra-indicated.

"4. Treat the disease as serious to the life not only of the patient, but of all contacts and the community.

"5. Suspect every child with temperature, sore throat, or running nose, and even a slight degree of aphonia, as being a case of diphtheria until the laboratory has decided otherwise."

W. H. Kellogg, M. D., director of the Bureau of Communicable Diseases, State Board of Health, presented a paper on the "Prevention of Diphtheria." Among other points Kellogg emphasized the public health responsibility of physicians when called to treat patients suffering from diphtheria.

"1. He should realize that cases of apparently simple sore throat may be diphtheria and should always take a swab.

"2. If the case shows any toxic symptoms, or is at all suspicious of diphtheria, he should never wait for the laboratory report before giving antitoxin, particularly if the examination is made at a State laboratory when the delays of the mail are serious.

"3. Having determined to give antitoxin, as many units should be given at one dose as will be required for the cure of the case as near as it can be estimated; the idea being to give at the first dose enough antitoxin to neutralize all of the toxin that is free in the circulation, as well as all that will be produced in the next three or four days.

"4. He should passively immunize other members of the family according to circumstances, as follows: If he is dealing with intelligent people and is in close touch with the family, he may apply the Schick test to the other children, awaiting the result and giving an immunizing dose of antitoxin to those found Schick positive. If for any reason delay could result between the development of a second case and his immediate notification thereof, he should give antitoxin to all the contacts. When antitoxin is used in this manner the physician should never forget that passive immunity does not prevent the carrier state and that the protection disappears in two or three weeks, at which time any carrier may become infected. This frequently results in a second death in the family, the people believing that the second case is not diphtheria, owing to the previous immunization, and therefore fail to call the doctor promptly. Active immunication by toxin-antitoxin is not applicable to the protection of persons recently exposed, as the immunity following is of slow development.

"5. The physician should instruct the family in the importance of strict isolation of the case from the rest of the family. Where possible, the attendant of the sick child should not associate with the well children, as she is almost sure to become a carrier. They should be instructed to collect and burn all secretions from mucus membranes of the patient, to keep separate, clothing, bedding and eating utensils.

"6. Finally, he should preach continually among his patients, the active immunization of children against diphtheria."

No notice of the other papers presented at this program are given because neither paper nor abstract has been submitted to the editor.

There was a meeting of the Committee on Industrial Medicine on January 17, for a discussion of the free choice of physicians in industrial accident cases and discussion of the fee schedule. The principal speakers were W. H. Pillsbury, attorney for the Industrial Accident Commission; Morton Gibbons, Gayle G. Moseley, James Eaves and G. W. Goodale.

The Committee on Eye, Ear, Nose and Throat met on the 24th of January. Abstract of the proceedings has not been received.

The Committee on Urology met on January 31. The only abstract received was of the paper presented by M. B. Wesson, M. D., on "Studies of Trigonal Area of the Bladder." The author called attention to a compensatory hypertrophy of the trigon in cases of obstruction at the vesical orifice due to overexercise of the trigonal muscle in opening the vesical orifice. A corresponding atrophy follows the removal of the obstruction (prostatic hypertrophy or median bar). The trigon may be dissected from the bladder wall in cases of tuberculosis and have to be removed with a resultant incomplete and difficult micturition; with removal of one-half of the trigon the remaining half functions and the bladder can be entirely emptied. The same is true when the trigon is split; however, a split trigon is not functionally as perfect as one with Mercier's bar intact.

The obstruction due to a hypertrophied trigon can be removed: (1) Intra-urethrally, by means of a punch or a trigonotome; (2) perineally, by means of a scalpel or trigonotome; (3) suprapubically, by means of a scalpel and scissors. The latter method is the operation of choice, since hemorrhage can be controlled.

With the removal of all vesical obstructions and the preservation of a maximal amount of the trigon, the untoward symptoms disappear and practically perfect function is restored.

San Joaquin County Medical Society (reported by Dewey R. Powell, M. D., Secretary)—The regular meeting of the San Joaquin County Medical Society was held Friday evening, January 13, at the State Hospital. Those present were: Hudson Smythe, president; Minerva Goodman, Grace McCoskey, J. G. Vischi, B. F. Walker, H. E. Sanderson, E. A. Arthur, F. J. O'Donnell, J. J. Tully, L. R. Johnson, C. F. English, B. J. Powell, H. E. Price, R. T. McGurk, L. Haight, J. P. Hull, Margaret Smythe, F. P. Clark, H. S. Chapman, W. P. Lynch, W. T. McNeil, R. R. Hammond, A. H. McLeish, C. R. Harry, F. J. Conzelman, J. T. Davison, E. L. Blackmun, Hudson Smythe and D. R. Powell, with H. L. Gregory of Stockton, Captain Day of the Army Medical Corps, Stanley Stillman and Walter Scott Franklin of San Francisco as guests of the evening.

The first speaker of the evening was Walter Scott Franklin, M. D., Professor of Ophthalmology at the University of California, who spoke on "Strabismus." The speaker emphasized particularly the fallacy of the advice formerly given by the family physician to wait in these cases before instituting treatment; that they would outgrow it or else there would be time enough to attend to it when the child should grow older. He spoke of the excellent results that could frequently be achieved by taking the child just as soon as the danger was in any way noticed, the important thing being the preservation of the vision, which otherwise would be impaired from disuse if the eye were not corrected early. He spoke particularly of the advantage of covering the good eye and forcing the weaker eye to do the work, and in that way educate the weak muscles. Franklin concluded his remarks by reiterating the importance of attending to strabismus cases early in young children. The paper was discussed briefly by B. F. Walker, B. J. and D. R. Powell.

The next speaker of the evening was Stanley Stillman, Professor of Surgery at the University of California, who spoke on "Difficulties of Gall Bladder Surgery." He mentioned first the cases of acute cholecystitis and the question that always arose as to whether to treat the case medically or surgically. In his experience a number of cases had gone along very nicely without operation and it was advised when the acute symptoms seem to be subsiding to defer surgical procedure, but if the symptoms progressed to operate at once. He spoke of the inefficiency of the X-ray as aiding in diagnosing gall bladder conditions and cited several instances where the X-ray was positively misleading. He mentioned the danger of operating in cases of gall bladder in suspected focal infection and cited that in a number of apparently normal gall bladders there were oftentimes severe postoperative conditions. He spoke of the old question of drainage and stated that he felt safer in cases of severe infection to have a drain, particularly where there was distinct hepatitis in association with the gall bladder trouble.

The members present discussed the paper and Stillman very courteously answered a number of questions. The president thanked the visitors on behalf of the society for their courtesy in presenting such splendid papers.

Santa Barbara County Medical Society (reported by Alex. C. Soper, Jr., M. D., Secretary)—The annual meeting and banquet was held January 9. Walter V. Brem, M. D., Wm. T. McArthur, M. D. of Los Angeles, and E. S. Kilgore, M. D. of San Francisco, all presented papers before the society.

The following officers were elected for 1922: President, William J. Mellinger, M. D., Santa Barbara; vice-president, Harry L. Schurmeier, M. D., Santa Barbara; first vice-president-at-large, J. C. Cummings, M. D., Carpinteria; second vice-president-at-large, Wm. T. Lucas, M. D., Santa Maria; secretary-treasurer, Alex. C. Soper, Jr., M. D., Santa Barbara.

At the meeting of January 23, Charles Stivers, M. D., of Los Angeles, discussed "Speech Defects" with presentation of cases. Horace F. Pierce reported a patient suffering from Primary Splenomegaly.

Construction has been started upon the new children's wing of the Cottage Hospital. This is to cost $50,000 and is the gift of Mrs. William H. Bliss.

The St. Francis Hospital is out on a campaign for funds to build their new hospital.

There is a barber shop in the San Marcos Building at Santa Barbara that sterilizes every hair brush after it is used.

Santa Clara County Medical Society (reported by E. P. Cook, M. D., Secretary)—The January meeting of the society was held at O'Connor Sanitarium on the 18th. Thirty-eight members were present, including four from Gilroy and three from Palo Alto; seventy-two were absent.

J. L. Pritchard, M. D., discussed the new hospital records and staff rules of O'Connor Sanitarium. He stated that a new record room had been prepared and that hereafter O'Connor Sanitarium will keep and index records. O'Connor Sanitarium is also installing a Sanborn apparatus for the determination of basal metabolism.

A. J. Baiocchi, M. D., reported a case of carcinoma of the stomach in a woman thirty-one years of age. The case was interesting from the standpoint of diagnosis with particular reference to carcinoma and syphilis. Exploratory operation was refused and the patient reacted unfavorably to salvarsan. Subsequently an exploratory operation was performed and carcinoma was found.

M. D. Baker, M. D., read a paper on the various conditions affecting the pelvis. J. H. Shepard, M D., demonstrated basal metabolism methods and discussed the value of basal metabolism determination in various thyroid conditions.

New members elected are: Alson A. Shufelt, M. D., graduate of the University of California Medical School, 1917, office Bank of Italy Building, San Jose; practice limited to Obstetrics and Gynecology. Donald G. Davy, M. D., graduate of the Stanford University Medical School, 1920; resident physician and surgeon of the Santa Clara County Hospital at San Jose. Charles L. Ianne, M. D., graduate of the College of Medical Evangelists, Los Angeles, 1921; intern at Santa Clara County Hospital, San Jose. W. L. McWhirter, M. D., graduate of the University of Texas, 1917, was elected to associate membership in the County Medical Society; Dr. McWhirter is the resident pathologist at O'Connor Sanitarium and is a member of the Texas State Medical Society.

The final plans for the new San Jose Hospital have been accepted and specifications are now being completed by the architects.

Solano County Medical Society (reported by A. V. Doran, secretary)—The February meeting was held on the 14th at the Vallejo General Hospital, with eight members present and nine absent. The following officers were elected for the ensuing year: President E. B. Todd; vice-president, R. E. Allen; secretary-treasurer, A. V. Doran.

The Vallejo General Hospital is nearing completion. The county is at present without any facilities for isolation or treatment of communicable diseases.

Sonoma County Medical Society (reported by N. Juell, M. D., Secretary)—The January meeting was held in Dr. Fisher's office at Santa Rosa with eight members and three visitors present.

G. W. Pierce, M. D., discussed plastic surgery and, after the dinner which was part of the program, there was a general discussion of social medicine.

Yolo County Medical Society (reported by Lela J. Beebe, M. D., Secretary)—The December meeting was held at Woodland on the 13th with the following members present: W. E. Bates, L. J. Beebe, W. J. Blevins, M. B. Bransford, C. H. Fairchild, F. R. Fairchild, J. L. C. Goffin, H. R. King, J. P. McManus, F. L. Newton, C. A. Poage, M. W. Ward.

The scientific program of the evening consisted of a "Demonstration of Metabolism Methods," by L. J. Beebe, M. D.; "Diagnosis of Hypo and Hyperthyroidism," by W. E. Bates, M. D.; "Surgical Treatment of Thyroid Disorders," by F. R. Fairchild, M. D.; "X-ray Treatment of Thyroid Disorders," by H. D. Lawhead, M. D., and "Medical Treatment of Thyroid Disorders," by C. A. Poage, M. D. The speakers were limited to ten minutes; the meeting was a very interesting one and discussion was quite general.

Keith of Williams and John Lawson of Woodland are to be voted on for election to membership at the next meeting of the society. Salter of Williams, Floreth of Dixon, Thompson of Winters and Rathbun of Colusa, are licensed physicians of Yolo County who are not members.

Yolo County would like to see more papers in the Journal devoted to physiotherapy and more suggestions on how to get health education over to the smaller communities.

Chiropractor Hollenbeck of Woodland has been arrested for practicing medicine without a license.

The Woodland Sanitarium is enlarging its physiotherapy department and is making various improvements, such as a high frequency coil, deep therapy lamp and a quartz mercury lamp, and is building seven new treatment rooms.

The position of County Health Officer became vacant with the death of C. E. Beebe, M. D., and H. D. Lawhead, M. D., has been appointed to the position.

The Woodland Sanitarium is now holding three health conferences a week; one for infants and preschool children, one for school children and one for mixed group patients.

Is there any ruling covering persons doing massage and electrotherapy, but not advertising themselves as physicians? How far may they go? Must they work only under a physician's prescription, or are they privileged to treat by these means those who come to them without being referred by a physician, so long as they do not claim medical skill or training?

[Note: The answers to these questions are found in the Preamble and Constitution of the California Association of Physiotherapists, published in the July number of the Journal and in an editorial in the same number on the same subject. Members of this association practice physiotherapy only under the supervision of the physicians in certain matters and carry out the physicians' written prescriptions in other matters.—Editor.]

Extension Work—The advertisement of the San Francisco Polyclinic and Post Graduate School appears on page 4 of this issue. Outlined courses of this character given by competent organizations reflect an important phase of extension work and clinical instruction of great value to the profession and to the public. It is hoped that other efforts will be made by hospitals and medical schools to give graduate instruction in a variety of fields.

BOOKS RECEIVED

Lessons on Tuberculosis and Consumption, by Charles E. Atkinson, M. D. 12 mo., Cloth, 470 pages. Price, $2.50 net. Funk & Wagnalls Company, New York, Publishers.

South America from a Surgeon's Point of View, by Franklin H. Martin, C. M. G., M. D., F. A. C. S. Fleming H. Revell Company, Publishers, 158 Fifth Avenue, New York City.

The Surgical Clinics of North America (Issued serially, one number every other month), Volume I, Number 5 (The Mayo Clinic Number), 296 pages, with 163 illustrations. Preclinic year (February, 1921, to December, 1921). Paper, $12 net; Cloth, $16 net. Philadelphia and London: W. B. Saunders Company.

About Book Reviews—"The average medical book review is a perfunctory insult to the intelligence of the journal's audience, and taken by and large is worthless, even from the viewpoint of bookselling, which undoubtedly does exercise a certain influence upon its creation.

"Relatively few people can write a good medical review of any sort, only an expert can write an accurate critical analysis and appraisement of a book treating of a special subject. It requires knowledge and experience to make a judgment of the value of a given book and the book reviewer must in addition be able to give clearcut expression to his criticism. A great many medical books scarcely deserve space in the Books Reviewed columns and should be ignored. Mischievous misleading books should be mercilessly attacked. Strong useful books should be subjected to constructive, stimulating criticism.

"One such able, honest, independent review a month will do a medical journal and its readers more good than a hundred half-baked, stock-form reviews which are equally valueless to author, reader and publisher."—(Abstracted from Editorial, N. Y. Med. Jour., January 18, 1922.)

This editorial and the one in our own Journal outline the policy that the California State Journal of Medicine hopes to follow in the future.

NEW MEMBERS

Edw. J. Ghidella, San Francisco; George V. Alderson, Chino; David C. Mock, Redlands; William L. Vickers, San Bernardino; Vernon C. Charleston, Needles; W. W. Cress, Sacramento; Smith McMullin, Folsom; Henry D. Buckman, Sacramento; Charles B. Bennett, Berkeley; Philip H. Petch, Oakland, Cal.; Dalton G. Paxman, Oakland, Cal.; Fred J. Walter, San Diego; G. W. Blatherwick, R. I. Hubert, Joseph A. Conaty, Jr., Verne R. Mason, Los Angeles; William L. Renick, Long Beach, Cal.; Henry D. Eaton, Los Angeles; Rowland P. Stanley, El Monte; C. Max Anderson, Hermosa Beach; Edward N. McKee, Los Angeles; Clifford A. Wright, Los Angeles; Poul M. Hunter, Pasadena; J. J. Gaynor, Davenport; Robert B. Hoag, Boulder Creek; W. Grant Hatch, Santa Cruz; William F. Stein, Fresno; John A. Montgomery, Fresno; Adolph Rosenthal, Ralph Rabinowitz, Albert H. Moore, Joseph Fife, George H. Becker, Harold J. Cooper, Elizabeth Schulze, Jesse W. Citron, Albert M. Jacobs, San Francisco; Zach Coblentz, Santa Maria.

Resigned—C. F. McCarthy, San Francisco.

MISCELLANEOUS

ADDITIONS TO EXTENSION LECTURES

For other lectures, see November and February numbers of the Journal.

HAROLD W. WRIGHT,
Flood Building, San Francisco.

I—The Psychoses of the Puerperal State:
Toxic-exhaustive syndromes and manic-depressive syndromes; differential diagnosis; factors influencing prognosis and course of disorder and liability to recurrence. Case reports illustrative of the above.

II—The Insanity of Adolescence: (Dementia Praecox)
Historical survey; premonitory symptoms; clinical types; differential diagnosis.

III—The Prognosis in Various Mental Diseases:
Toxic; organic; functional; traumatic; developmental. The type of original personality in relation to prognosis. The need of observation facilities in general hospitals prior to decision as to commitments as a humane and an economic measure.

The Ernest H. Baynes Lecture on "The Truth About Vivisection"—On page 73 of the February number of the Journal announcement is made of the 1922 popular medical lectures given by Stanford University at Lane Hall. All of these lectures are very much worth while to members of the medical profession and to the public. Mr. Baynes' lecture is of particular interest and of the very greatest importance to every citizen of the State, because this matter is making its usual perennial appearance before the voters of California. It is hoped that as many people as possible will attend this particular lecture, the date being Friday, March 10, 1922.

Private Lectures in Ophthalmology—A group of ophthalmologists of San Francisco are making arrangements to have Professor Fuchs of Vienna give a private course of lectures to ophthalmologists during his visit here as the guest of the California Academy of Medicine in June. Invitation is extended to members of the State Society throughout the State to avail themselves of this opportunity. Any wishing to take this course should write to Dr. Harold A. Fletcher, 804 Butler Building, San Francisco, for particulars.

Socialized Medicine—"That there are influences in this country which are bent on bringing all the people's affairs under official scrutiny, is most apparent from the efforts now being made to create a sentiment in favor of 'State medicine.' This means simply: more jobs, no privacy, curtailment of freedom, the destruction of the medical profession by the discouragement of research work, and the coarsening of delicate intimacies. It means practically that what the United States Shipping Board did to the shipping situation of the country, 'State medicine' would be permitted to do to the people's health.

"Between family physicians and families there is a confidential relation which rests on choice and experience. It is not official. It is not altogether professional. It partakes of the confessional in large degree, and constitutes a friendly pact based on the experience of many fights with disease and death. So well recognized is this that the family physician has become a fixed figure in our lives. and with results of undoubted good, as the records generally show.

"To change all this and establish a police health station, as it were, at which citizens must apply for medical aid and await the pleasure of an official doctor who is paid anyway, and whose professional career does not depend on the confidence he is able to evoke by skilled and loyal service, is to suggest something which is so alien to our Americanism as almost to prove an alien course and an alien purpose."—(Editorial from Dearborn Independent.)

Vacancies in the Regular Corps of the U. S. Public Health Service—Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following named place on the date specified: At San Francisco, Calif., March 13, 1922. Candidates must not be less than twenty-three years nor more than thirty-two, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years in professional practice. They must pass satisfactorily oral, written, and clinical tests before a board of medical officers. Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate. Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

Physical Standards for Children—According to the United States Public Health Service, "The common test of a child's health development, and about the only test that can readily be applied to children in mass, is to ascertain by some standard table of age-weights prepared for the purpose, whether or not they weigh as much as they should at their age. If the child is 10 per cent or more under standard, it is considered to be under-nourished and is treated accordingly.

"This, however, may or may not be the case, for the standard tables are largely approximations. Nevertheless, they serve a useful purpose, pending the establishment of more accurate and scientific standards, by calling attention to individual children and causing a more careful examination to determine whether the sub-standard weight is due to a remediable cause.

"Some of the age-weight standards used in the United States are merely averages of all classes of children, including with the well those who have hampering physical defects and those who are actually under-nourished. They probably never did apply to all parts of the United States, and quite possibly they no longer apply even to the particular part for which they were originally devised."

This quotation from the U. S. Public Health Service expresses mildly and conservatively a problem that is being daily amplified by the enthusiasm of statistical standardization experts. Inquiries from physicians from all over the State and from intelligent citizens show that the so-called standards are being interpreted too literally and not always by competent observers. We have the definite assurance of pediatricians of uncommon ability that some of the finest, healthiest specimens of children in the State of California are pronounced "under-standard" or "under-nourished," and parents and friends are made anxious over an ever-increasing number of perfectly healthy children.

WALTER LINDLEY, M. D.

AN APPRECIATION OF WALTER LINDLEY

By H. G. BRAINERD, M. D.

It was my good fortune to make the acquaintance of Dr. Walter Lindley in 1886. At that time he had been in Los Angeles about ten years, and had built up a large medical practice, but had taken time to infuse new life and activity into the moribund Los Angeles Medical Society, and was its efficient secretary and later president.

He had improved the sanitary condition of the city by his service as health officer, and had served on the Board of Education: had devoted much time in helping start the Los Angeles Orphans' Home, and for a number of years was physician to the Home, and president of its Board of Managers. He had, also, been superintendent of the Los Angeles County Hospital for a couple of years.

At the time I became acquainted with him he was devoting his energies to organizing the first medical college in Los Angeles, and for several years thereafter was its efficient secretary, and later secretary and Dean of the Faculty.

His work in connection with the Board of Education and Orphans' Home led him to take great interest in defective children, and it was largely through his efforts that the Whittier State School was established. When it was finished and equipped he was its superintendent for the first five years of its existence, and later continued on its Board of Trustees. After resigning the superintendency of the Whittier State School he returned to Los Angeles and one of his first activities was to organize the California Hospital, to which he devoted largely of his time and means. He was its efficient medical director until it passed last year into the hands of the California Lutheran Hospital.

Shortly after the opening of the California Hospital he established a training school for nurses, the first to be established in Southern California. About this time he became publisher of the Southern California Practitioner, and was for many years the editor and publisher.

Prior to his superintendency of the Whittier State School he had become a member of the National Association of Charities and Correction, and for several years served as its secretary and later vice-president.

With all of his many interests he always found time to devote to the political affairs and the social welfare activities of the city.

He once said to me that the height of his ambition in the matter of wealth was to be able to buy all the books he wanted, and throughout his life he was always collecting choice books until he had a very large and valuable library, which was a source of great pleasure to himself and many of his friends.

He always gave a hearty welcome to the new physicians in Southern California, and scores of young doctors have been greatly indebted to him for his encouragement and help. No friend ever went to him with his troubles without receiving sympathy.

The apoplectic stroke, which came to him while at work, proved fatal in a few hours.

He has left to his sons and daughters a wonderful heritage of an unsullied life full of good works, and to his friends a memory of a beautiful friendship.

DEATHS

Hickman, W. S. Died in Georgetown, California, January 9, 1922. Was a graduate of Medical Department Vanderbilt University, Tenn., 1886. Licensed in California, 1886. Age 65.

McCoy, John. Died in the Soldiers' Home, Sawtelle, Calif., December 21, 1921. Was a graduate of Medical Department of the University of Michigan, March 30, 1865. Licensed in California, 1890.

Felton, Lucius Ely. Died in Hanford, Calif., January 8, 1922. Was 72 years of age and a graduate of Bellevue Hospital Medical College, New York, 1871. Licensed in California, 1891.

Clifford, John Bruce. Died in Santa Barbara, Calif., January 12, 1922. Was a graduate of the California Medical College, California, 1894. Licensed in 1894.

Felton, Lucius Ely. Died in Hanford, Calif., January 8, 1922. Age 72. Was a graduate from Bellevue Hospital Medical College, New York, 1871. Licensed in California, 1891.

Gilliland, A. B. Died in Cottonwood, Calif., January 26, 1922. Was a graduate of the U. S. Grant University, Tennessee, 1894, and licensed in California, 1897. Was president of the Shasta County Medical Society of the State of California.

Johnson, J. H. Died in San Gabriel, January 16, 1922. Was a graduate from University City of New York, 1887. Licensed in California, 1888. Was a member of the Medical Society, State of California.

Layman, D. W. Died in San Diego, January 15, 1922. Was a graduate of the University of Illinois, College of Physicians and Surgeons, 1904. Licensed in California, 1921. Was a member of the Medical Society, State of California.

Lindley, Walter. Died in Los Angeles, January 24, 1922. Was a graduate of Long Island College Hospital, New York, 1875. Licensed in California, 1876. Member of the Medical Society, State of California, also State Board of Health and a former member of the State Board of Medical Examiners.

Morrissey, Joseph Grant. Died in San Francisco, January 13, 1922. Was a graduate of Medical Department, University of California, 1894. Licensed here the same year. Age 57.

Owen, Henry W. Died in Bakersfield, Calif., December, 1921. Was a graduate from College of Physicians and Surgeons, Kansas City, Mo., 1901. Licensed in California, 1901. Age 53. Was a member of the Medical Society, State of California.